STCC LIBRARY
3 8132 0002 7387 7

SPRINGFIELD
TECHNICAL
COMMUNITY
COLLEGE



1979-80 Catalog

TABLE OF CONTENTS

General Information 5

Allied Health Sciences 31

Business Administration Programs 53

Human and Community Service 75

Liberal Arts & Sciences 87

Engineering Technologies 93

Engineering & Science Transfer 127

Humanities 131

Social Sciences 139

Math & Natural Sciences 145

Directories 159

Index 185

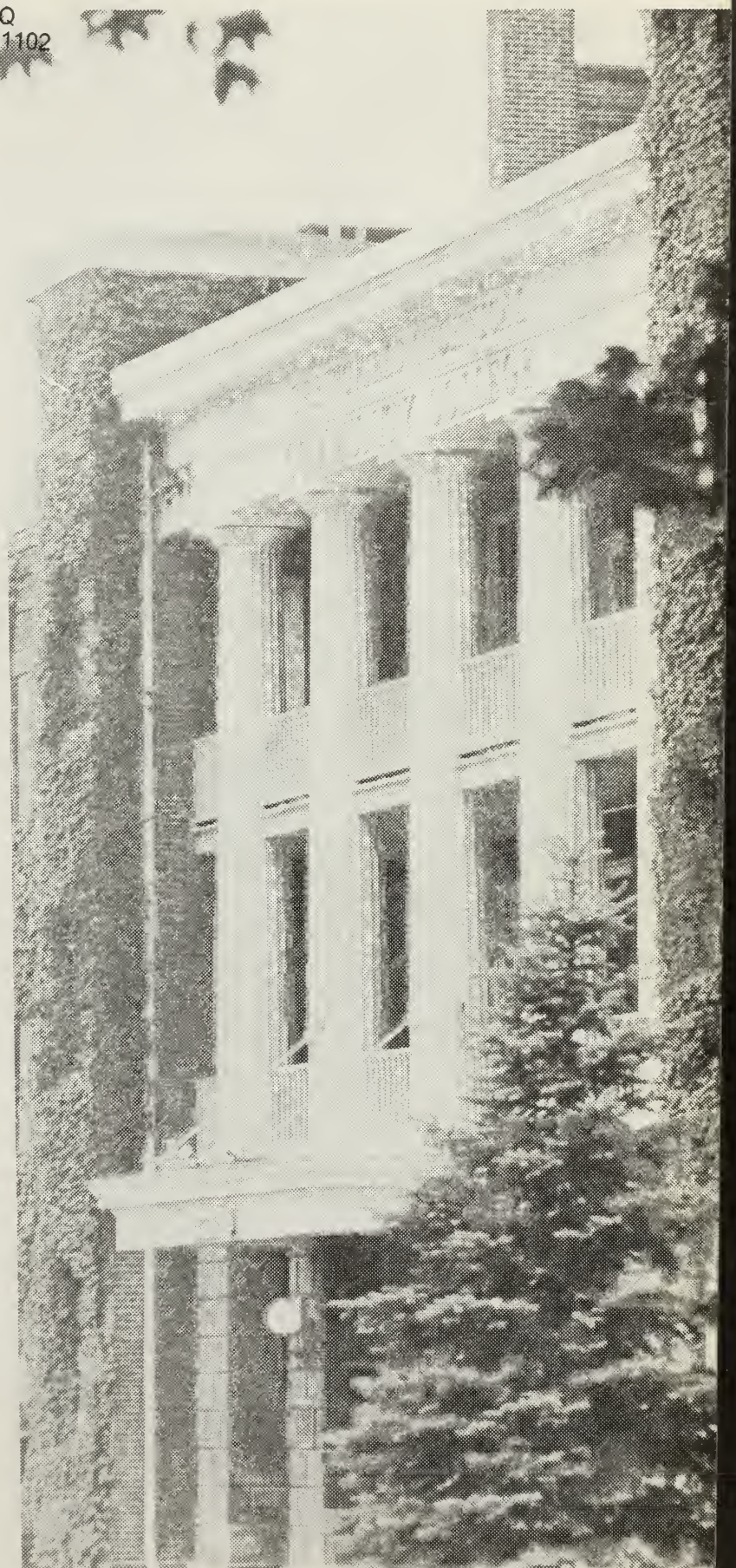
Springfield Technical Community College is an institution of higher education, fully accredited by the

NEA S&C | NEW ENGLAND ASSOCIATION OF SCHOOLS AND COLLEGES
ACCREDITED MEMBER

S.T.C.C., an Affirmative Action/Equal Opportunity Employer, also complies with all regulations against discrimination on the basis of sex or handicap status in its educational programs, services, and employment practices, as mandated by Title IX of the Education Amendments of 1972 and Section 504 of the Rehabilitation Act of 1973. All questions should be directed to the AA/EEO Officer of the college, Mrs. Dorothy J. Pryor, One Armory Square, 781-6470.

This catalog is published as a convenient source of information for prospective students and for the general public. To allow for unforeseen developments that may occur along budgetary or other lines, the College reserves the right to add or withdraw courses and programs, or to revise any provision or requirement described herein.

STCC LIBRARY
ONE ARMORY SQ
SPRINGFIELD, MA 01102



DESIDERATA

Go placidly amid the noise & haste, &
remember what peace there may be in
silence. As far as possible without
surrender be on good terms with all persons.
Speak your truth quietly & clearly;
and listen to others, even the
dull & ignorant; they too have their
story. Avoid loud & aggressive persons,
they are vexations to the spirit. If
you compare yourself with others, you
may become vain & bitter; for always
there will be greater & lesser persons
than yourself. Enjoy your achievements
as well as your plans. Keep
interested in your own career, however
humble; it is a real possession in the
changing fortunes of time. Exercise
caution in your business affairs; for the
world is full of trickery. But let this not
blind you to what virtue there is;
many persons strive for high ideals; and
everywhere life is full of heroism.
Be yourself. Especially, do not feign
affection. Neither be cynical about love;
for in the face of all aridity &
disenchantment it is perennial as the grass.
Take kindly the counsel of the years,
gracefully surrendering the things of
youth. Nurture strength of spirit to
shield you in sudden misfortune. But do
not distress yourself with imaginings.
Many fears are born of fatigue & loneliness.
Beyond a wholesome discipline, be gentle
with yourself. You are a child of the universe,
no less than the trees & the stars; you have
a right to be here. And whether or not it
is clear to you, no doubt the universe is
unfolding as it should. Therefore
be at peace with God, whatever you conceive
Him to be, and whatever your labors & aspirations,
in the noisy confusion of life keep peace
with your soul. With all its sham, drudgery
& broken dreams, it is still a
beautiful world. Be careful.
Strive to be happy.

Found in Old Saint Paul's Church,
Baltimore; Dated 1692.

ACADEMIC CALENDAR

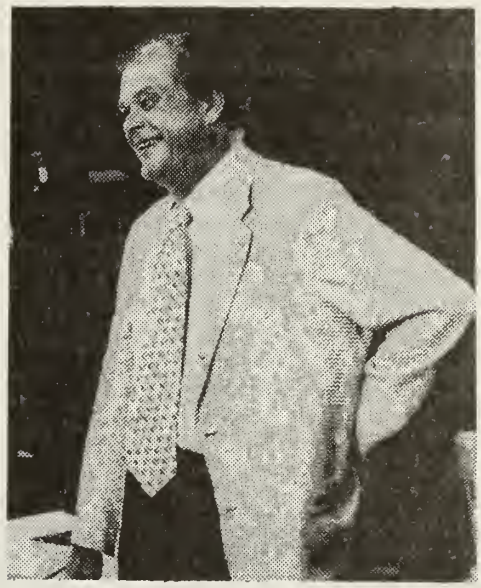
SPRING SEMESTER - 1979

WEEK	DATES	
1	Jan. 22 - 26	Mon., Jan 22 - Faculty Meeting - 9:00 a.m. Student Registration and Meetings with Advisors - 10:00 - 1:00 Tues., Jan. 23 - Classes Begin Tues. - Fri. - Add and Drop Week
2	Jan. 29 - Feb. 2	
3	Feb. 5 - 9	
4	Feb. 12 - 16	
	Feb. 19	Mon., Feb. 19 - Washington's Birthday - No Classes
5	Feb. 20 - 23	
6	Feb. 26 - Mar. 2	
7	Mar. 5 - 9	
8	Mar. 12 - 15	Mon., Mar. 12 - Distribution of Phase 1 Fall Registration Booklet
	Mar. 16	Fri., Mar. 16 - Evacuation Day - No Classes
	Mar. 19 - 23	Mid-Semester Break - No Classes Tues. - Thurs., Mar 27 - 29 - Fall Registration All Students Meet with Faculty Advisors
10	Apr. 2 - 6	
11	Apr. 9 - 13	
	Apr. 16	Mon., Apr. 16 - Patriots' Day - No Classes
12	Apr. 17 - 20	Tues., Apr. 17 - Follow Monday Schedule Wed. & Thurs., Apr. 18 - 19 - Students Meet with Faculty Advisors to pick up schedules and make any necessary changes.
13	Apr. 23 - 27	Wed., Apr. 25 - Distribution of Final Student Schedules for Fall Semester
14	Apr. 30 - May 4	
15	May 7 - 11	
16	May 14 - 15	NOTE: If "snow days" are needed, they will be added to this week and Final Exam Week - May 21 - 25.
	May 16 - 22	Final Exams
	May 26	Final Grades Due in Registrar's Office
	June 3	Sunday - Graduation




SPRINGFIELD
TECHNICAL
COMMUNITY
COLLEGE

PRESIDENT'S MESSAGE



Springfield Technical Community College has, since its beginnings, been an exciting, viable and relevant institution of higher education dedicated to the community college concept: an open-door policy to all citizens in the community. Since STCC is the only public technical community college in the Commonwealth, the primary thrust of the institution is a strong emphasis on programs in the areas of Allied Health, Nursing, Dental Sciences, the Technologies, Engineering Sciences, Math and Natural Sciences, and Business Administration. In point of fact, more than 80% of its students are enrolled in career, technical, and engineering programs. The college also provides comprehensive courses in the Liberal Arts and Social Sciences and has a strong commitment to providing community service programs.

We who are educators need no longer demonstrate that the trained intelligence of men and women is vital to the health and development of any community; what we must continue to demonstrate, however, is that we do successfully train and develop the intelligence of our students so that they may achieve the fulfillment of informed and meaningful involvement in their own communities and in our common community of man.

From the array of diverse educational opportunities which Springfield Technical Community College offers, students are encouraged to seek courses of study which enable them to stretch their minds, to identify and perfect their capabilities and to employ these new capabilities positively within the community. To further this mission, our highly qualified faculty is dedicated to their students. Many of the faculty are scholars whose research has been recognized in their professions, but their first function at Springfield Technical Community College is to teach, thus much individual attention is given to students. Moreover, we sponsor numerous extracurricular activities and cultural events apart from formal academics, for we realize that learning and growth are found in a variety of experiences that occur in settings other than the classroom.

In the years that Springfield Technical Community College has been a creative and contributing force in the community, it has produced men and women who have entered the world with the training and sense of responsibility, with the competence and maturity to help, each in his own way, to make this a better and healthier world. Whether their primary contributions have been made locally or in the wider community of man, their role has been constructive. Springfield Technical Community College is dedicated to making its contribution to society in the form of such men and women whose sense of responsibility to others is as high as their commitment to intellectual excellence.

Robert C. Geitz, President

THE COLLEGE

HISTORY

In 1947 the State Board of Education determined that the Commonwealth should establish a system of community colleges, and in 1958, the Massachusetts Board of Regional Community Colleges was created to oversee the master plan for the development of the community college system.

The concept of creating a post-secondary technical school in Springfield originated in 1964 when the City established Springfield Technical Institute.

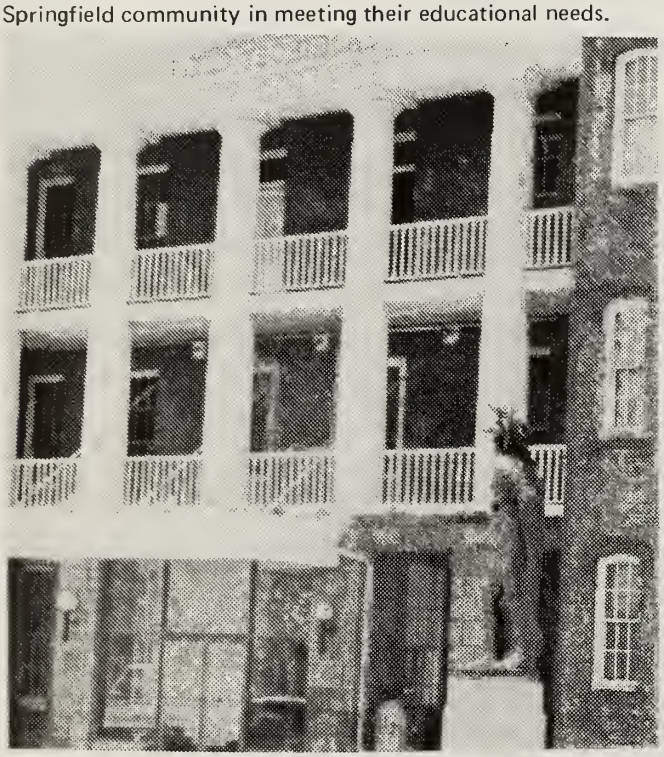
In the fall of 1967, Springfield Technical Community College opened the historic gates of the vacated United States Armory and proceeded to establish itself as a leader in the community college system in the Commonwealth of Massachusetts.

An initial enrollment of 400 students and a faculty of 20 began what is now the largest and most comprehensive community college in the Commonwealth. The change from a city technical institute to a degree-granting community college resulted in STCC providing thousands of trained graduates for the career opportunities that exist in the Greater Springfield community.

The thirty-four acre campus contains a blend of the old and new. New academic facilities as well as historic buildings dating back to the American Revolution exist on this National Historic Landmark.

New facilities for the Humanities, Physical Sciences, Nursing, Allied Health Sciences and Engineering Technologies exist within the historic fence cast in the mid-1800's from old cannons.

STCC is proud of its brief but impressive history, and the College will continue to serve the citizens of the Greater Springfield community in meeting their educational needs.



PHILOSOPHY

One of the primary responsibilities of a democracy is to provide for the education of each citizen. The accomplishment of this objective is a major concern of the community college. Within budgetary limitations, Springfield Technical Community College maintains an open door to all citizens of the community. It recognizes the needs of the inner city and welcomes its students who indicate likelihood of academic success at the college level.

OBJECTIVES:

The objectives of the College are:

1. To provide high-quality, low-cost education for qualified high school graduates who wish to complete two years of college.
2. To provide students with the opportunity for the development of social maturity through a well-balanced program of student activities.
3. To provide students with comprehensive services in academic and personal counseling, occupational guidance and job placement.
4. To provide opportunities for continuing education for adults residing in the area served by Springfield Technical Community College.
5. To provide for every student, regardless of race, sex, or age and in spite of any handicap, a genuinely equal opportunity to benefit from all of the courses, activities and services offered by the College.

A prime objective of this College is to educate its students to a high degree of competency in the career of their choice and to support that competency with a solid, working knowledge of mathematics, fundamentals of science, written and oral English, social sciences and in-depth exposure to the principles and the methodology of that career.

ACCREDITATION

The College is a member of the American Association of Junior Colleges and of the New England Junior College Council. The President of the College has associate individual membership in the New England Association of Schools & Colleges and the College has been fully accredited by N.E.A.S. & C.

The College is approved by the Board of Collegiate Authority, Massachusetts Department of Education; by the Massachusetts Rehabilitation Commission; by the United States Office of Education for listing in the Directory of Higher Education; for the National Defense Student Loan Program; for federal assistance from any unit of the Department of Health, Education, and Welfare; by the United States Veterans Administration for the admission of veterans and war orphans; by the United States Department of Justice as a place of study for non-immigrant students; and by the United States Internal Revenue Service as a non-profit organization. Individual programs in the Allied Health Sciences are accredited as follows: Dental Assisting, Commission on Accreditation of Dental and Dental Auxiliary Educational Programs; Dental Hygiene, Commission on Accreditation of Dental and Dental Auxiliary Educational Programs, Medical Assistant, American Association of Medical Assistants; Medical Laboratory Technician, The Committee on Allied Health and Accreditation; Nuclear Medicine, Joint Review Committee on Medical Education in Nuclear Medicine of the A.M.A.; Nursing, National League for Nursing and Massachusetts Board of Registration in Nursing; Physical Therapist Assistant, American Physical Therapy Association; Radiation Therapy, Joint Review Committee on Medical Education in Radiologic Technology of the A.M.A.; Radiologic Technology, Joint Review Committee of Medical Education in Radiologic Technology of the A.M.A.; and Respiratory Therapy, Joint Review Committee Inhalation Therapy Education.

ADMISSIONS

ADMISSION

Springfield Technical Community College encourages applications without regard to age, sex, race, religion or national origin. Admission to the College requires a high school diploma or its equivalency. The Director of Admissions may determine in some cases that a mature, responsible adult may be admitted to the College without the diploma or its equivalency. This in no way guarantees such a student entrance into a specific academic program.

Every consideration will be given to any applicant who possesses a diploma without regard to the curriculum pursued in high school. The applicant should take note, however, of the numerous requirements demanded by specialized college programs. (See Prerequisite page.)

A high school equivalency diploma (General Education Development Test GED) may be earned by passing tests administered by the College several times each year. Further information about the tests may be obtained from the Admissions Office.

Students are advised to study carefully special requirements that are established by the program into which they seek admission.

Some programs of the College require specific minimum scores to be achieved by the applicant on the Scholastic Aptitude Test (SAT) of the College Entrance Examination Board.

Admissions Telephone Number : 781-6470, Extension 3856.

RE-ADMISSION

Any student who has been dismissed for academic deficiencies may be re-admitted by bringing his cumulative quality point average (CQPA) up to the minimum standard required by the College. (See Academic Standing)

Any student who has attended summer or evening school and has raised his CQPA to the acceptable level, thereupon should reapply formally to the Director of Admissions.

APPLICATION PROCEDURE

Students desiring admission to the College may obtain an application by writing to the Director of Admissions, Springfield Technical Community College, One Armory Square, Springfield, Massachusetts, 01105. Students attending high schools in the Greater Springfield Area may expedite the application process by asking their guidance department for an application form. Applications should be filled out completely and returned to the College as soon as possible. This application must be accompanied by a non-refundable application fee in the amount of $10 (check or money order) payable to STCC.This is a required fee which goes directly into the General Fund of the Commonwealth. It is each applicant's responsibility to insure that a transcript of his high school marks is sent to the College. The Admissions Office cannot accept the responsibility for obtaining transcripts.

Springfield Technical Community College maintains an open-door admissions policy, but the rapidly increasing number of applicants necessitates early application for admission. Applicants should have their applications on file no later than January 31 for any given academic year. However, applications received after January will be processed; if openings exist within programs, applicants who apply after January 31 will receive acceptance.

In addition, transcripts from all colleges previously attended must be submitted to the college.

APPOINTMENTS FOR INTERVIEWS

Although interviews are not required, applicants are encouraged to seek help with career choices by exploring various programs with the counselors and staff. Interviews may be arranged by phoning or by writing the Admissions Office for an appointment, telephone 781-6470, Extension 3856.

TRANSFER INTO STCC

Applicants who have had previous college experience must submit all college transcripts whether or not they are seeking transfer credit. The College accepts a maximum of 45 credits transferable into the College for courses taken at other institutions. Only courses in which the student has received a grade of "C" or better and are similar in content to those required in the student's program at STCC will be accepted.

Transfer applications are usually accepted for admission to the College in both September and January. January transfers are normally limited to Liberal Arts Transfer, Liberal Arts/General Studies, Business Administration, Data Processing and Engineering Transfer programs.



CLEP AND CHALLENGE EXAMINATIONS - ADVANCED PLACEMENT

The College may award up to 45 credits to persons who successfully complete examinations in specific subject areas given at the College under the aegis of the College Level Examination Program (CLEP), or a series of Challenge Exams developed by the College.

The CLEP examinations cover a wide range of disciplines and allow applicants to demonstrate proficiency in areas where they have acquired knowledge through non-traditional learning situations. Credits received by CLEP examinations allow the College to waive introductory courses which the student would normally be required to take.

The College has produced challenge examinations in subject-matter areas not found in the CLEP battery so that people who wish to demonstrate competence in specialized areas may do so.

Students who feel that they possess above average competence in a subject area should not hesitate to consult the Director of Admissions for further information, consultation and testing.

High scores on Advanced Placement Examination of the College Entrance Examination Board will be evaluated by the Admissions Staff. Specific scores as approved by the College may allow the student applicant to be exempted from certain courses.

PLACEMENT TESTING

As part of the admissions program at Springfield Technical Community College, the Admissions Office administers a PLACEMENT TESTING program in English and Mathematics. These tests are designed to provide information about a student's aptitude and abilities for placement in appropriate fundamental required courses. The College REQUIRES that all entering freshmen, regardless of the program to be entered, participate in this program so that the College may help students more effectively experience success. Anyone who does not participate in the testing will not be allowed to begin classes.

OUT-OF-STATE AND FOREIGN STUDENT INFORMATION

Because of the lengthened processing time, out-of-state residents as well as all non-United States residents, must have all application materials complete and on file with the STCC Admissions Office prior to August 1 in order to be considered for admission to the Fall semester (December 1 for admission to the Spring semester).

Prospective students who are neither United States citizens nor in the United States on permanent visas must have taken the Test of English as a Foreign Language and have the test score entered as part of their application for admission. Those who score below 525 on the TOEFL may enroll only for classes entitled English as a Second Language (ESL).



MINIMUM PREREQUISITES FOR ADMISSION

PROGRAM	DEGREE OR CERT.	LICENSE AFFILIATION OR DESIGNATION POSSIBLE	MATH	SCIENCE	OTHER ACADEMIC AREA	ADD. REQ.
Adv. Metal Machining	AS		Alg.1,Geom,Trig.			SAT
American Studies	AA					
Automotive Technology	AS		Alg. 1	Physical		
Bio-Medical Technology	AS		Alg. 2	Physical		SAT
Business Administration*						
Accounting*	AS		Alg.2 not			SAT
Finance*	AS		mandatory			SAT
Management*	AS		but recom -			SAT
Marketing*	AS		mended			SAT
Civil Engineering Tech.	AS		Alg. 2	Physical		SAT
Computer Maintenance Tech.	AS		Alg.2,Trig.	Physical		SAT
Cosmetology	CERT.	Nat'l License Req. for Employment		Physical		
Data Processing	AS		Alg. 2			
Dental Assisting	CERT.	A.D.A.A. Nat'l Cert.		Biology	Typing	SAT**
Dental Hygiene	AS		Alg. 2,Geom.	Bio/Chem & Labs		SAT,DHAT***
Drafting & Design Tech.	CERT.		Alg. 1	Physical		
Early Childhood Assistant	AS	Nat'l Credential - Child. Development Associate				SAT** Personal Interview
Electrical Technology	AS		Alg. 2	Physical		SAT
Electro-Mechanical Tech.	AS		Alg.2,Geom/ Trig.	Physical		SAT
Electronic Benchwork Tech.	AS		Alg.1,Trig.	Physical		SAT
Electronic Technology	AS		Alg.2,Trig.	Physical		SAT
Emergency Medical Tech.	AS	Nat'l Cert.	Alg. 2	Biology		
Engineering & Science Tran.*	AS		Alg. 2,Trig.	Chem,Physics		SAT
Environmental Technology	AS	Certification	Alg. 1	Chemistry		SAT
Facilities Engineering Tech.	AS		Alg. 1	Physical		SAT
Fire Science	AS					SAT
General Studies*	AA					SAT Recommended
Graphic Arts Technology	AS		Alg. 1	Physical		SAT
Heat/Power/Air Cond.	AS	Certification/2nd class license	Alg. 1	Physical		SAT
Landscape Technology	AS		Alg. 1	Physical		SAT
Laser Electro-Optics Tech.	AS	Nat'l License	Alg.2,Trig.	Physical		SAT
Law Enforcement	AS					SAT
Liberal Arts/Transfer*	AA		Alg.2 Preferred			SAT Preferred
Machine Design Technology	AS		Alg.2,Trig.	Physical	Mech. Draw.	SAT
Medical Assistant	AS	Nat'l Certificate		Biology		SAT
Medical Laboratory Tech.	AS	Nat'l Registration	Alg. 2	Bio,Chem.		SAT***
Mental Health	AS	Nat'l Organization of Human Services Educators				SAT
Modern Studies	AA		Alg. 2	Bio,Chem,Physics****		
Nursing	AS	R.N.	Alg. 2	Bio,Chem.		SAT***
Occupational Therapy Tech.	AS	Nat'l Certificate	Alg. 2	Biology		SAT
OSHA (Occup. Safety/Health)	AS					SAT
Operating Room Technician	AS	Nat'l Certificate	Alg. 2	Bio,Chem.		SAT
Physical Therapist Assistant	AS		Alg. 2	Bio,Chem.		SAT***
Radiology						
Nuclear Med. Technician	AS	Nat'l Certification	Alg.2 Desired	Bio,Chem,Physics****		SAT
Radiation Therapy	AS	Nat'l Certification	Alg. 2 Desired	Bio,Chem,Physics****		SAT
Radiologic Technology	AS	Nat'l Certification	Alg.2 Desired	Bio,Chem,Physics****		SAT
Respiratory Therapy	AS		Alg. 2	Bio,Chem		SAT
Secretarial						
Bilingual	AS	Cert. Pro. Secretary				SAT
Clerical Office Assistant	CERT.					SAT
Court Stenography	AS	Cert. Shorthand Reporter, Mass. Short. Rep. Association				SAT
Executive	AS	Cert. Pro. Secretary				SAT
Legal	AS	Cert Pro. Secretary				SAT
Medical	AS					SAT
Solar Energy	AS	Certification/2nd class licence	Alg. 1	Physical		SAT
Telecommunications Tech.	AS					SAT

* University Parallel Program

** These programs will require a minimum combined SAT total score of 750 for September 1979.

*** These programs will require minimum SAT scores of 450 each in Verbal and Math for September 1979.

**** These programs will require one of the listed science requirements - two others are strongly desired.

Information as of November, 1978

TUITION AND FEES

TUITION FEE

The Commonwealth of Massachusetts has set tuition at $150 per semester for State residents and $1475. for non-residents. Part-time resident students pay $16 per credit, while part-time non-resident students pay $32 per credit. The charge for auditing a course is set at $49. per credit. Under an agreement among the New England States, students from any of the six states may attend college in another of the six states for the same tuition as a resident of the state, provided that the program desired is not available in their state or that the community college is closer than that in the home state.

Persons sixty-five years of age or over may attend STCC tuition free if the College is not overenrolled and if the persons annual income is not in excess of twelve thousand dollars.

STUDENT ACTIVITY FEE

To promote athletics, student affairs, clubs and scholastic endeavor such as student publications, each student must pay a student activity fee. The rate is set yearly by the student government and is payable each semester.

PARKING FEE

Parking is limited on campus. Seniors may park on campus up to the limit of space. Parking fees will be established each year. Off-campus parking is available near the College for varying prices.

GRADUATION FEE

To cover the cost of the graduation ceremony and the graduate's cap and gown, the College assesses each graduating student a $20 fee. The student is charged this amount at the same time as he receives his fourth semester bill.

INSURANCE

The Commonwealth of Massachusetts requires each student to purchase through the College an accident insurance policy for a minimum charge which is part of the Student Activities Fee. Optional plans under this policy may be purchased to provide hospitalization and twenty-four hour protection. Information about insurance will be sent to each admitted student. Students in Allied Health and Nursing are required to carry liability insurance in addition to the accident policy.

BOOKS AND SUPPLIES

Estimated costs for books and supplies vary by department, but $100 to $150 per year should pay for most books and supplies. The College bookstore, operated by an outside concern, provides at reasonable costs, many of the items that the student requires during his stay at STCC Students are also required to pay a LIM fee for all courses (See Summary of Tuition and Fees)

PAYMENT OF BILLS

All tuition and fees are payable before each semester begins. No deferred payment plans or partial payment plans are available. If payment is to be made by agencies or scholarship programs, arrangements must be made in advance with the Financial Aid Office.

All student financial obligations must be satisfied before a student is considered properly registered. No grades, transcripts, recommendations or other services will be provided to students with outstanding financial obligations.

VETERANS

Veterans may be eligible for a tuition waiver while attending a State-supported college or university. Note: Division of Continuing Education is not State supported.

The guidelines that have to be met in order to receive a tuition waiver are as follows:

1. Military service must be accredited to the Commonwealth of Massachusetts (i.e. "Home of Record" on DD-214 must reflect city or town in Massachusetts).
2. Veteran must have served 181 consecutive days active duty.
3. Veteran must have served at least one day active duty on or before May 7, 1975.
4. Veteran must bring copy of DD-214 to the Office of Veterans Affairs.
5. Eligible veterans based on above criteria may use tuition waiver 15 years after date/separation from active duty or, up to 130 credit hours.

The Office of Veterans Affairs operates on an open-door basis. Assistance is available in the following areas: academic counseling, veterans benefits counseling, upgrading of discharges, disability claims and referal service.

TUITION REFUNDS

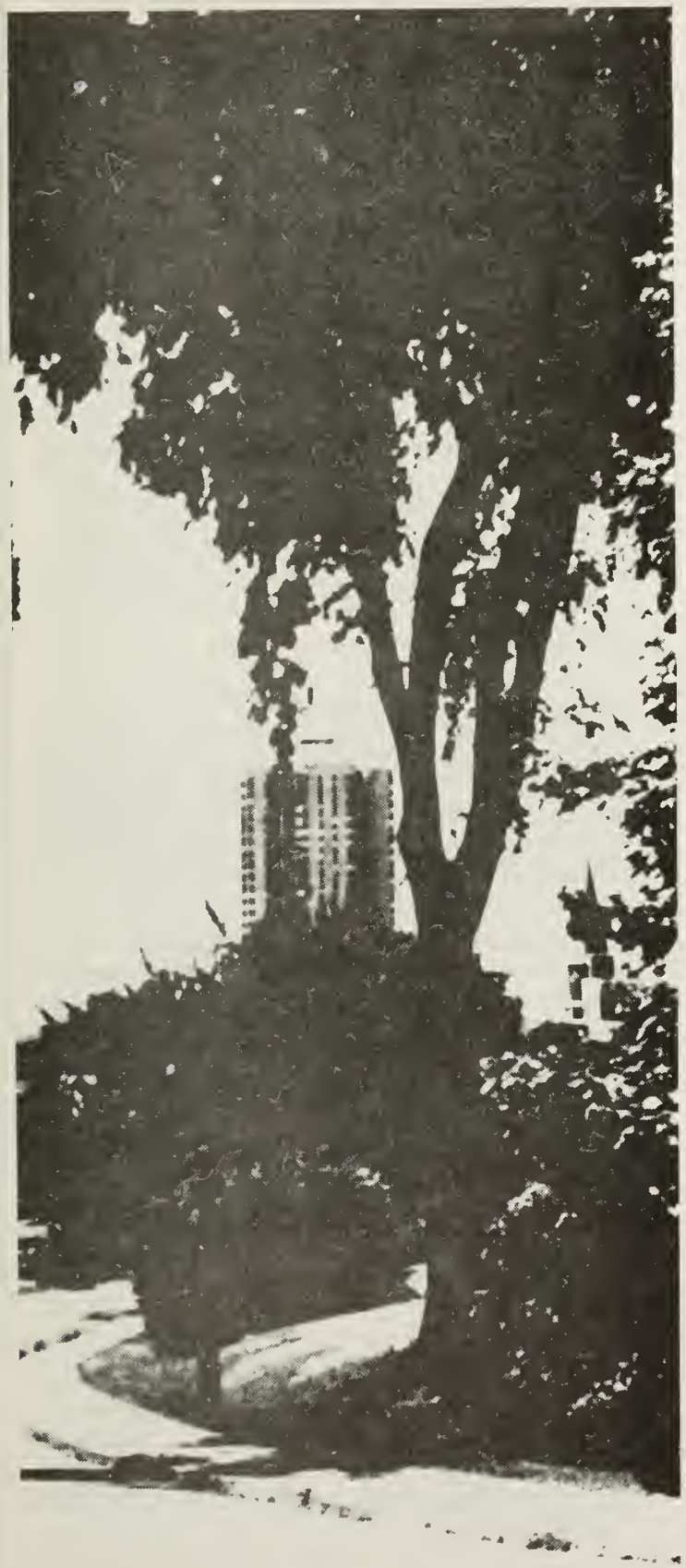
Tuition refunds are made only to those students who officially withdraw from the College. In order to do this, a student should personally or by written communication notify the Registrar of his decision. The College will, thereupon, refund a portion of the student's tuition according to the following schedule established by State regulations:

Withdrawal during first week	90 percent
Withdrawal after one week	70 percent
Withdrawal after three weeks	50 percent
Withdrawal after four weeks	no refund

All refunds are made by the State Treasurer and take approximately 6 weeks.

It should be noted that no provision is made for refunds of any other fees or charges except for tuition.

The first $35.00 of a tuition is non-refundable and is excluded from the refund computations.



SUMMARY OF TUITION AND FEES

The following fees are the approved charges authorized by the Massachusetts Board of Regional Community Colleges for the academic year and are subject to change without further notice.

Application Fee (non-refundable)	$ 10
Registration Fee (deductable from tuition)(non-refundable)	35
Tuition for Mass. Residents (per semester)	150
Tuition for Out-of-State Students (per semester)	737.50
Tuition, Part-time (per semester hour Massachusetts)	16
Tuition, Part-time (per semester hour Non-Residents)	49
Tuition, Audit Per Course	21
Student Activities Fee-	
Full-time Students (12 or more credits per semester)	20
Part-time Students (less than 12 credits per semester)	10
Late Registration Fee	5
Change of Course Fee/Per Course	3
Make-up Examination Fee	5
Student Insurance (Optional)	
Supplemental 24 hour Accident and Sickness Plan (approx.)	146
Student Liability Insurance (approx.)	11*
Transcripts	
First	no charge
Each Additional	1
Graduation Fee (payable at the beginning of the semester preceding graduation)	20
Laboratory Institutional Materials Fee ($1.00 per credit hour is charged for all courses up to a maximum of $17.00 per semester.)	1

*Manditory for Allied Health * Nursing Students

FINANCIAL AID

As more and more people seek higher education, Springfield Technical Community College is making an intensive effort to aid its students in obtaining financial assistance in order that no young man or woman is denied a college education because of economic barriers. Based on an individual's financial need, the Financial Aid Office allocates funds to assist eligible students in paying for the cost of their college education. Assistance is provided through several sources, and a student may receive a combination of more than one type of help.

APPLICATION PROCEDURE

Springfield Technical Community College is affiliated with the College Scholarship Service (CSS). This organization's forms are used to provide the College with data, which is evaluated by the Financial Aid Officer when he determines a student's need.

Students being supported by their parents should obtain a copy of the Financial Aid Form from their high school guidance counselor or the Financial Aid Office of the College. Married students and others not receiving financial support from their parents (and whose parents do not deduct them on their income tax) should use the Financial Aid Form which is available at the College.

The FAF should be mailed to the address indicated on these forms. List Springfield Technical Community College, 3791. In addition to the FAF, each application must also complete a separate Springfield Technical Community College Financial Aid Application obtained by writing to the Financial Aid Office of the College.

It should be noted that financial assistance received in any one year does not automatically guarantee aid in a subsequent year. A new application must be submitted each year.

The deadline date for filing the above forms is March 31. Applications received after this date may not receive consideration.

You must be able to verify your financial data.

COLLEGE WORK-STUDY

Students earn $2.75 per hour while working up to 20 hours maximum a week when the College is in session. During vacation periods, worktime may be increased to 40 hours a week.

College Work-Study is particularly well-suited to the student who needs extra income to stay in school but feels a full-time, outside job might jeopardize his studies. Hours usually can be arranged to follow the student's class schedule.

BASIC EDUCATIONAL OPPORTUNITY GRANTS

BEOG is a federal grant program, which awards amounts approximately to $938 based on financial need. Applications may be obtained from high school counselors or the College's Director of Financial Aid.

SUPPLEMENTARY EDUCATIONAL OPPORTUNITY GRANTS(SEOG)

Supplementary Educational Opportunity Grants are outright awards that do not have to be repaid. They are given to students of limited financial resources who would be unable to attend college without such help. Grants range from $200 to $1,000 per year. SEOG recipients must match the amount of the grant with a scholarship. This grant is not one that can be applied for by the student.

NURSING STUDENT LOAN PROGRAM

Nursing students are eligible for Nursing Student Loans which enable them to borrow up to $1000 per year to finance their training. Terms for Nursing Loans are the same as for the National Direct Student Loans.

NATIONAL DIRECT STUDENT LOANS

Through National Direct Student Loans, a student may borrow up to $1000 in one year. Loans accumulate no interest while the student remains in college or continues his studies at another institution. Repayment begins nine months after the completion of the student's formal education. Loans are repaid over an extended period with a simple 3 percent interest rate. No payments are made when the borrower is in the military. National Direct Student Loans also have payment cancellation clauses for recipients who become teachers in eligible institutions.

NURSING SCHOLARSHIP PROGRAM

This program has been developed to assist students of exceptional financial need to attain a career in nursing. There is no matching fund requirement under the Nursing Scholarship Program. However, Nursing Scholarships usually are combined with Nursing Student Loans to provide a financial package to meet a student's individual need.

BOARD OF HIGHER EDUCATION SCHOLARSHIP

The Commonwealth of Massachusetts sponsors an excellent scholarship program for full-time students who are residents of the State. Applications may be obtained at any secondary school guidance office or by writing to the Scholarship Office, Board of Higher Education, Commonwealth of Massachusetts, 182 Tremont Street, Boston, Massachusetts 02111. Deadline for entering Freshmen is usually January 31. Renewal deadline is May 1.

PRIVATE ORGANIZATION SCHOLARSHIPS

Several scholarships awarded by private organizations in Greater Springfield are also available. Requests for information should be directed to the Financial Aid Office, STCC.

H.E.L.P. LOANS

The Massachusetts Higher Education Loan Assistance Corporation guarantees student loans up to $2500 per year. Called HELP Loans, repayment begins after the student has completed his formal education. Such loans are obtained from Massachusetts Savings banks which can provide complete details about terms.

LEEP PROGRAM

Eligible students enrolled in Law Enforcement courses may receive assistance through the Law Enforcement Education Program (LEEP). LEEP is supported by federal funds and administered by the United States Department of Justice.

ACADEMIC INFORMATION

ACADEMIC REGULATIONS AND HONORS

The academic year at Springfield Technical Community College is divided into two semesters with the first semester ending prior to Christmas vacation and the second semester resuming in the later part of January. The final week of each semester is devoted to final exams. Unless a formal change is published, the calendar in the STCC College Catalog is official.

ACADEMIC STANDING

The quality point index required to maintain acceptable academic standing is as follows:

1. Beginning of the second semester of enrollment, a quality point average of 1.5.
2. Beginning of the third semester of enrollment, a cumulative quality point average of 1.7.
3. Beginning of the fourth semester of enrollment, a cumulative quality point average of 1.9.

In order to graduate in an Associate Degree program, a student must satisfy the graduation requirements of his department and must have earned a cumulative quality point average of 2.0.

A student not meeting the aforementioned standards will be placed on academic probation and may be asked to withdraw if no academic improvement has taken place.

In most health programs, clinical affiliation is required. Students in health education must maintain a minimum quality point average of 2.3 in their major area of concentration to be accepted by a clinical facility for affiliation.

The accumulation of credits alone does not necessarily mean that a student is entitled to a degree. Normally, a student must earn a minimum of 60 credits in a specific curriculum. In many departments this minimum is exceeded.

GRADUATION REQUIREMENTS

The Massachusetts Board of Regional Community Colleges has statutory authority to confer associate degrees through the individual Community Colleges. Upon recommendation of the faculty, those candidates who qualify may be awarded the degree of Associate in Arts (A.A.) or Associate in Science (A.S.); Candidates for degrees shall have fulfilled the following requirements:

1. Completion of the courses required in the program in which the student is enrolled. He must present at least 60 credit hours of which a minimum of 15 must be in residence at the college and must meet all departmental requirements. In all degree programs except nursing, the student must have completed at least 20 credits in general education courses.
2. The student must have earned a minimum cumulative quality point average of 2.0.
3. The student must have satisfied all financial obligations to the College, including the payment of the graduation fee, at the beginning of the semester preceding graduation or when 45 credits have been earned toward graduation.
4. A National Direct Student Loan recipient must have completed the exit interview with the Financial Aid Officer or his representative.

Under certain circumstances, a student who has not met these requirements may be permitted to re-enter the day, evening or summer division of the College in order to expunge deficiencies and to earn a degree by continued study.

EXAMINATIONS AND GRADES

Final examinations are scheduled for each course. At the end of each semester, all students receive written letter grades according to the following standards:

Letter Grade	Qualitative Equivalent	Quality Points Earned Per Credit Hour
A	93 through 100	4.0
A minus	90 through 92	3.7
B plus	87 through 89	3.3
B	83 through 86	3.0
B minus	80 through 82	2.7
C plus	77 through 79	2.3
C	73 through 76	2.0
C minus	70 through 72	1.7
D plus	67 through 69	1.3
D	63 through 66	1.0
D minus	60 through 62	0.7
F	Below 60	0.0
I	Incomplete	no grade
W	Withdrawn	no grade
Au	Audit	non-credit*

*Non-credit courses are not figured in the Quality Point Average.

The grade of Incomplete (I) indicates that a major requirement of the course has not been completed. Unless the deficiency has been made up within one month after the grade has been reported, the Incomplete grade automatically becomes an F on the student's permanent record.

MAKE-UP EXAMINATIONS

A student failing to take a semester examination may apply in writing to the Dean of Student Services and the instructor concerned, whereupon the Dean of Faculty may give permission to take a make-up examination. If, in their opinion, absence from the regularly scheduled examination was unavoidable, the student may take a make-up examination upon payment of a $5 fee.

CLASS SCHEDULE

In the majority of cases, with the exception of Directed Study courses, three-credit courses meet three times a week and are of 50 minutes duration, or are 75 minutes long and meet twice a week. Exceptions may be found in career curricula and other special programs. Class hours begin at 8:00 a.m.

CLASS ATTENDANCE

The faculty of the College has voted to allow each instructor to set his own classroom attendance policy. Each faculty member will notify his students in writing at the start of each semester of his attendance policy, grading policy and course requirements. The Dean of Student Services will, upon request from an instructor, warn students when they have exceeded an instructor's attendance policy. The Dean of Student Services may, at the recommendation of the Instructor, withdraw such a student from that class.

Off-campus activities, appropriately supervised and sponsored by faculty members, which appear to justify a student's absence from scheduled classes, must be approved in advance

by the Dean of Student Services. Such activities must be justifiable on grounds consistent with the educational program of the College. Whether a student is excused from class or examination to participate in such activities is determined by the instructor concerned.

MID-SEMESTER GRADES

At mid-semester, students will be graded by each of their professors. These grades will be recorded by the Registrar and forwarded to each student's advisor for dissimination and discussion. These grades will not become part of a student's permanent record but are used to indicate his/her performance through the first half of the semester.

REGISTRATION

Registration is held during the first week of school of each semester. At this time students may add or drop courses. Admittance to a course at this time is, however, dependent upon the seats available. Students wishing to add a course after the first week of classes will be subject to a late fee of $3 per course addition.

PRE-REGISTRATION

Pre-registration for the spring semester is held in October, while pre-registration for the fall semester is held in March. Students expecting to return for the next semester must pre-register with their faculty advisors. It is the student's responsibility to seek out information concerning departmental course requirements prior to pre-registration. This may be done with the assistance of his department chairman, faculty advisor, or counselor.

COURSE CHANGES

Students are permitted to add and drop courses (subject to the approval of the faculty advisor) during the first week of classes without penalty. Any changes made thereafter will require the payment of a $3 fee by the student to the Cashier's Office. No change will be permitted beyond the second week of classes.

PROGRAM CHANGES

A program change is defined as a change of major or department and, though permissible under certain guidelines, should be undertaken only with considerable thought and counsel. A student who is seriously considering a program change should seek immediate advice from his/her faculty advisor.

The major requisite for this type of change is the consent of both the Chairman of the department that he wishes to leave and that of the Chairman of the department into which the student is seeking admission.

It should be noted that a student making such a change may suffer such consequences as the postponing of his graduation because of the necessity of taking prerequisite and core courses in his new department.

COURSE WITHDRAWAL

Students may withdraw from a course through the sixth week without being recorded as enrolled in that class. Students may withdraw from a course until the end of the twelfth week with a "W" grade recorded on his permanent record. Withdrawal after the twelfth week will be recorded as a failing grade except in certain cases when the instructor and the Dean of Student Services find extraordinary circumstances meriting a "W" grade. All withdrawals must be made officially through the Registrar.

REPETITION OF COURSES

Any student who receives a grade in a course that is unsatisfactory to him may repeat that course and both grades will appear on his permanent record. However, only the second grade will be calculated into his quality point average. In order for this policy to be in effect, a student is required to inform the Registrar that he is repeating a course by completing a course repeat form concurrent with the actual repeating of the course(s).

AUDITING OF CLASSES

Students may attend certain classes as auditors (i.e., without receiving credit) under the following conditions:

1. Permission must be obtained from the Registrar during registration period.
2. All established charges for the course must be paid.
3. Priority in registration will be given to students who are registering in the course for credit.
4. Audit courses will be reflected on student's permanent record as Audit.

DEAN'S LIST

In order to recognize above-average academic performance, a Dean's List is published each semester. Any student carrying 12 or more semester hours who earns a 3.0 quality point average is placed on the Dean's List, providing that student has no grade less than a C in that semester.

PRESIDENT'S LIST

In an attempt to recognize extraordinary achievement, the College has instituted a President's List. In order to be eligible for this meritorious honor, a candidate must be a full-time day student carrying a minimum of 12 credit hours and must attain a quality point average (QPA) of 3.80.

HONOR SOCIETIES

The Alpha Nu Omega Honor Society has its Alpha Chapter at STCC. The purpose of the honor society is to stimulate within the student body a desire for self-improvement and intellectual growth by acknowledging academic achievement.

Membership in Alpha Nu Omega is open to any member of the student body who attains a 3.3 cumulative grade point average in a 12 credit semester toward an Associate Degree. A probationary period of one semester will be granted to all honor society members who drop to a 3.0 average. Members must have at least a 3.5 average to be eligible to run for office. At the end of the first semester, students having the required average must make their intentions of joining the honor society known to the Dean of Student Services. Induction into Alpha Nu Omega will be held in the middle of the second semester.

STUDENT INFORMATION

STUDENT'S RIGHTS AND RESPONSIBILITIES

GOAL

To provide an atmosphere where sound intellectual and academic development is provided.

OBJECTIVES

A. Student Responsibilities

1. To be knowledgeable of and comply with the directives regulations, and laws as established by the Massachusetts Board of Regional Community Colleges the College, and the Student Government.
2. To respect the rights of individuals and groups to independent action as long as those rights do not interfere with the parallel rights of others – minorities and majorities alike – including the avoidance of action interfering with those educational processes under the auspices of the College.
3. To be knowledgeable of and comply with the directives regulations, and laws of duly constituted civil authorities.

B Student Rights

1. To have the opportunity to pursue higher education.
2. To have the freedom to exercise the rights of citizenship, association, inquiry, and expression.
3. To have the right of privacy and confidentiality.
4. To have the right of voting representation on all recommendations to the President of the College on matters of concern, including but not limited to, academic standards, student affairs, and curriculum changes.
5. To have the right of quality education, including but not limited to:

   a. The right to competent instruction in courses and programs offered by the College.

   b. The right to assistance in overcoming educational, cultural, emotional, and economic disadvantages which hinder the educational process.

   c. The right to receive in writing from each faculty member during the first week of classes, of every quarter or semester, a brief, written course description and outline of the material to be covered, course requirements including a specific list of information and techniques which the student is expected to acquire, attendance policy, and the grading system to be utilized.

6. To have the right to fair and equal treatment, including but not limited to instruction, evaluation, and services by faculty, staff, students, and administrators.
7. To have the right to procedural due process in grievance and disciplinary hearings.

Approved by the Mass. Board of Regional Community Colleges, 4/15/77.

CODE OF CONDUCT

The College assumes that its students will behave in such a way that will reflect creditably upon their homes, parents, College and community. To help provide an orderly atmosphere to nurture student development, certain regulations and policies have been developed over the years. The College further assumes that all students will abide by these regulations and policies. Violations of established College policy may result in disciplinary action up to and including suspension from the College.

The following is not an all-inclusive list of prohibited actions, but will serve as a guideline.

1. Academic dishonesty - such as plagiarism, cheating, use of unauthorized books or notes, knowingly furnishing false information, unauthorized reading, removing, duplicating, photographing, misuse of any college file, document, or record of any faculty, administration, staff or student.
2. Alteration of college records, documents, or identification instruments or the use of the same with the intent to defraud.
3. The possession or use of narcotics and dangerous drugs as defined by the laws of the Commonwealth of Massachusetts is prohibited on campus and at all college-sponsored off-campus activities. The use or possession of alcoholic beverages is restricted by the Massachusetts Board of Regional Community Colleges to special social events.
4. Intentional obstruction or disruption of normal college conduct, functions, processes, routines, college activities on or off campus, or activities of those invited to the campus for any purpose.
5. Physical abuse or misuse of persons or property on campus or at college-approved off-campus activities.
6. Theft, or unauthorized use or possession of any property (including keys, files, documents, library materials,etc.) owned, leased, or maintained by the college or by persons on the campus.
7. Weapons, firearms, explosives - possession, sale, or use of any weapon, firearm, explosives, or explosive device including fireworks. Permits will be issued by the Dean of Students for weapons being taken to the Rifle Range during scheduled Rifle Club meetings.
8. Failure to comply with directions of college faculty, staff and administration acting in the performance of their duties.
9. Violations of published college regulations including parking, motor vehicle movement, use of college buildings or equipment and any other regulations which may from time to time be enacted.

PRIVACY RIGHTS OF PARENTS AND STUDENTS

In compliance with a federal law entitled Privacy Rights of Parents and Students, the College has established a policy to protect students from misuse of information in their personal folders and to allow students access to their own folders. The policy is summarized as follows:

All records will be kept in such a way as to guarantee their physical security. Data will be maintained in a computer so that only qualified college personnel will have access thereto on a clear "need-to-know" basis.

A record log or audit trail will be kept for all records showing name and department of all persons using records.

No records will be released to anyone without the informed written consent of the student concerned. A student will be notified whenever a court of law subpoenas his record.

Students may have general access to their records and the right to challenge records they believe to be inaccurate, incomplete, or to have been incorrectly disseminated. An exception of this right to access is the Parents Confidential Statements of their finances, which will not be released to a student without the informed written consent of the parent(s).

Students who wish to challenge information in their folders may petition in writing the Dean of Student Services who will hold a hearing before a committee made up of the Registrar of the College, the Dean of Student Services, a faculty member, a student chosen by the Student Senate and the aggrieved student

Photocopies of student records may be obtained from the Registrar at the cost of $1. per page, except for transcripts of marks, the first of which is free.

OFF-CAMPUS RESIDENCE

The State Community College System has espoused a policy that will place a community college within a commuting distance of every student in the state. As a result of this policy, the community colleges are non-residential in philosophy and in fact.

Springfield Technical Community College realizes that it offers a wide variety of programs not available at other community colleges or institutions which attract many students who are not within commuting distance. In order to assist these non-commuting students, the College has found that in the past the facilities provided by the YMCA have more than met the needs of students.

Other housing accommodations are readily available in close proximity to the College. The College, however, assumes no responsibility for students living off campus, but will provide assistance in locating housing.



SPECIAL STUDENT SERVICES PROGRAM

The College has specialists to service:

1. Handicapped students
2. Veterans
3. Limited English-Speaking
4. Black and Hispanic Americans
5. Students in need of financial counselling or assistance
6. Students in need of career counselling
7. Students in need of special tutoring.

An important feature of our program is to provide individual academic and vocational counselling through the faculty advisors and appropriate specialists. Students who for whatever reason suffer a linguistic and/or learning handicap will be given special tutorial assistance and counselling. Referral to any of the student service specialists may be made through the faculty advisor or the Dean of Student Services office.

The student's need for and interest in self-identity and community awareness is an acknowledged fact. The College works closely with students and community representatives to incorporate into our program special classes and cultural activities to satisfy this need. Through special funding, the college has implemented a program of courses and events to develop an awareness of cultural heritage among Hispanic and other ethnic groups of the community.

Tutorial Assistance Program
The Tutorial Assistance Program is an important component of Springfield Technical Community College. Through the services of this program, students in need of tutorial assistance receive tutoring in any academic field. The Tutorial Assistance Program Coordinator is located on the first floor of Building 16, Room 9 (directly below the Admissions-Registration Center).

Career Services
Vocational aptitude tests and occupational information and counselling are available upon request. Referral may be made through the faculty advisor or the office of the Dean of Students.



THE LIBRARY

The library is located on the second floor of Building 27. Hours are 8 a.m. to 9 p.m. weekdays, except Fridays when the library closes at 5 p.m. It is not open on weekends or legal holidays; summer and vacation hours vary. All students, part- and full-time, day and evening school, may use the library resources and services.

Print Materials:
The library book collection contains 42,000 volumes. Some of these are reference books, including encyclopedias, atlases, almanacs, and dictionaries, which must be used in the library. All other books may be charged out.

Over 280 journal subscriptions are received regularly. These include popular magazines as well as a wide variety of specialized journals covering the fields relating to the STCC curriculum. Several different periodical indexes provide access to journal articles.

Other materials include: newspapers from Springfield, Boston, and New York; college catalogs from schools throughout the country; a file of Spanish language materials; a collection of current fiction and non-fiction paperbacks; and a juvenile book collection maintained for the Children's Literature course but available to all library users.

Career Center:
The library offers a variety of materials on different careers; these materials are available in the Career Center opposite the circulation desk. In addition, the regular circulating book collection contains many career-related titles which augment the special Career Center collection.

Non-Print Materials:
The library maintains a large, diversified collection of non-print or audiovisual materials. These include 16mm films, video cassettes, audio cassettes, sound and silent filmstrips, 8mm sound and silent film loops, slides, records, and transparencies. Cassettes, records, filmstrips, and slides may be signed out; all other materials may be used in the audiovisual viewing room which has individual carrells with equipment for using all library audiovisual materials. Staff from the AV Software Department are available to help students with these machines.

Circulation:
All library materials are charged our and returned at the circulation desk. College catalogs and "room reserves" are located here as well. A student ID card is necessary in order to sign out materials.

There is a book drop outside of Building 16 where materials may be returned when the library is closed.

Reference:
Anyone who has difficulty locating books or information for class-related or personal use should request assistance at the

reference desk. The Reference Librarian is available to help students find information and to show them how to use the variety of research sources available in the library.

Cooperating Colleges of Greater Springfield
Through an agreement among the colleges in the Greater Springfield area, any STCC student may use the other college libraries by presenting an STCC ID. The participating institutions are: American International College, Bay Path Junior College, College of Our Lady of the Elms, Holyoke Community College, Springfield College, Western New England College and Law School, and Westfield State College. The Springfield City Library is also included in the group. As a result of CCGS, many additional resources are available. When using other area libraries, students are subject to their policies and regulations concerning loan periods and possible penalties for overdue materials.

Interlibrary Loans:
Students may use the library resources of all Massachusetts public college and university libraries through the WILL (Walk-in Interlibrary Loan) program by presenting an STCC ID. If a students needs a book which is unavailable in the Greater Springfield area or at the University of Massachusetts, the book can be borrowed through the mail on Interlibrary Loan. All requests for ILL are handled at the reference desk.

Miscellaneous:
Within the library are other facilities which students may wish to use. These include a copy machine which costs S.10 per page, and a manual typewriter which may be used at no charge. There is a cassette duplicator available as well, which may be used for students if time permits.

A student library handbook with complete details on materials and services is available to all students at the circulation and reference desks.

CAREER CENTER

The Career Center is located in the College Library. The center is open daily for students to drop in and browse. Materials available include: vocational brochures, occupational outlooks, government jobs statistic files, career aptitude tests, career handbooks, tape cassettes, curriculum-oriented job folders and a lending library. Appointments with a career counselor may be made through the center for students who wish further guidance.

PLACEMENT SERVICE

Springfield Technical Community College maintains a centralized placement service which is part of the student personnel program. Its services include educational placement and employment placement.
The Placement Office is located in Building 16, on the first floor. The specific functions of the office are to maintain a current record of employment opportunities, to establish and maintain permanent credential records of STCC students and alumni and to conduct follow-up studies of graduates.
The placement service seeks to assist students and alumni in attaining positions which will best utilize their education, training, experience and abilities.

AFRO-AMERICAN RESOURCE CENTER

The Afro-American Resource Center contains the Minority Career and Afro-American libraries and minority student activities office. The following is a brief description of the components and services provided by the Afro-American Resource Center.

Minority Career Library — The Minority Career Library contains a listing of employment opportunities; summer internships, scholarships and career opportunity programs sponsored by various colleges, professional organizations and government agencies. The majority of scholarships, internships, etc. are designed to encourage and assist minorities to enter engineering and other careers that have traditionally had an underrepresentation of minorities. Also available are multi-media aids to assist minority students in writing resume, cover letters, and preparing for job interviews. The Minority Career Library contains catalogs and other information on the historically Black colleges. Career and placement counseling is provided as a service of the Afro-American Resource Center.

Afro-American Library — A growing library of Afro-American books and periodicals. All books are available for short term loan. The Center subscribes to many of the current Black periodicals.

Minority Students Activities — The planning and implementing of a variety of educational, cultural, and social activities to meet the unique needs of Afro-American student.

Recruitment/Outreach — Planning and implementing of innovative recruitment projects to increase the enrollment and retention of minorities.

The Afro-American Resource Center also serves as a lounge, study for Afro-American students. It is located in the first floor lobby of Building 20, Room 100. The director is Mr. Al Carter.

STUDENT INFORMATION POST

The Student Information Post, located on the ground floor of Building 20, provides information on parking, school functions, building locations, other colleges and financial and tutoring assistance.
The S.I.P. staff can refer students to Day Care Centers, Alcoholic Counseling Centers and Mental Health facilities. S.I.P. works in association with the Student Drop-In Center located in Building 27, first floor. The Student Information Post is operated daily from 8 a.m. to 3 p.m. The Drop-In Center is open from 8 a.m. to 4 p.m.

ATHLETICS:

Intercollegiate athletics are an integral and prominent part of STCC's educational objectives. Sports are seen here as vital and beneficial activities.
The Department of Athletics sponsors the following varsity sports for men: soccer, basketball, hockey, golf and basefall. For women, volleyball, basketball and softball are offered on an inter-collegiate level.
The STCC athletic program fosters inter-collegiate sports

suited to its present size with an eye to our needs of the future. Participation is open to any full-time student in good academic standing. STCC is a member of the Massachusetts Community College Athletic Association which consists of the 15 state community colleges divided into two divisions:

Eastern	Western
Massachusetts Bay	Quinsigamond
Northern Essex	Greenfield
North Shore	Springfield Technical
Massasoit	Mt. Wachusett
Roxbury	Holyoke
Cape Cod	Berkshire
Bristol	Middlesex
Bunker Hill	

Intramural athletics for all students, regardless of skill and experience, are held in touch football, basketball, bowling and softball. The College offers a full and varied women's sports program including bowling, volleyball, softball and gymnastics. Our intramural programs offer an opportunity for wide participation by all members of the student body.



COLLEGE BOOKSTORE

The college bookstore, located on the ground floor of Building 20 in the south wing, is open every school day from 8:30 a.m. to 3 p.m. It is also open evenings for the convenience of Continuing Education students. Books, school supplies, equipment for course work, as well as miscellaneous items are offered for sale, and used books are offered at discount prices. In addition, students can purchase their class rings, rent caps and gowns, and arrange for magazine subscriptions and film developing at discount prices.

AWARDS

At Commencement, awards are given to graduating seniors who have achieved a 4.0 Quality Point Average.

An Honors Convocation is held the Thursday before Commencement with awards and scholarships being given to those students whose academic records in their department is outstanding and to those who have contributed significantly to the total college community through their extra-curricular participation. These awards are:

President's Citation
President's Cup
Edmond P. Garvey Award
Teresina B. Thompson Award
Isabell V. Kendrick Award
Helen Post Memorial Award
Division of Nursing Faculty Award
John A. O'Leary Award (Nursing)
Mercy Hospital Award
History Department Book Awards
Outstanding Achievement in Mental Health Award
Certificate for Excellence In Mental Health Award
Clinical Proficiency Award
Dr. John J. Ferri & Joseph J. Ferri Award
Bilingual Secretary of the Year
Executive Secretary of the Year
Medical Secretary of the Year
Legal Secretary of the Year
Shorthand Proficiency Awards
New England Telephone Company Awards to
Bilingual Secretarial Students
Bicultural Scholarship Award
Achievement Awards In Allied Health Sciences
Association of Business Students Scholarship Award
Business Administration Outstanding Achievement
Robert C. Geitz Award for Engineering Excellence
Humanities Awards
STCC Alumni Scholarships

AVAILABILITY OF THE SCHOOL VEHICLES

Springfield Technical Community College has a bus and three vans available for academic and social groups on a sign-up basis. One van is specifically designed and outfitted for students with impaired mobility. For information regarding the use of a school vehicle, contact the office of the Dean of Student Services.

PARKING

Each year the College attempts to secure a maximum number of parking spaces in the general area of the campus for student parking and in September the College publishes an updated list of independent parking areas located in the general vicinity of the campus. It should be noted that these lots are not controlled by the College and any arrangements in regard to cost will have to be worked out between the student and the owner of the lot.

Please refer to the separate booklet "Traffic Rules and Regulations for Massachusetts Regional Community Colleges" available in the Dean of Student Services Office.

INSURANCE

The Commonwealth of Massachusetts requires each student to purchase through the College an accident insurance policy for a minimum charge. Optional plans under this policy may be purchased to provide hospitalization and twenty-four hour protection. Information about insurance will be sent to each admitted student. Careful consideration should be given to the additional coverage available. The cost is quite reasonable for the amount of coverage under the "optional"plan.

HEALTH INSURANCE CLAIM PROCEDURE

1. Claim report forms may be obtained from the College Health Service, Dean of Student Services Office.
2. Students are responsible for reporting claims in writing within 20 days, or as soon as reasonably possible, after an accident or first treatment for sickness.
3. The Claim Report and itemized bills are to sent to the insurer within 90 days. The company is not liable when the first report is submitted over one year after injury or first treatment for sickness. Address of insurer may be obtained from the nurse or Dean of Student Services Office.
4. Additional bills do not require another claim report. The student should send the bills, marked with the College name, to the insurer at the end of each 30 day period.
5. Instructions for completing a claim report are on the reverse side of the form. The College will not transmit these items except in unusual cases. It is solely the student's responsibility to submit reports and bills promptly.
6. Claim drafts are payable to medical service unless a receipted bill is presented.
7. The status of pending claims or details of payment may be obtained from the insurer.
8. The insurer will maintain pending files, correspondence and closed files.

MEDICAL AND EMERGENCY HEALTH SERVICE

Every student while on campus may seek the counsel and professional advice of the college nurse who has an office on the second floor of Building 20. The nurse is on duty every school day from 8 a.m. until 4 p.m. Her private phone is 781-6470, extension 3510. Wesson Memorial Hospital is located one block from the STCC Campus. In case of any emergency, the number to call is 787-2562, Wesson Emergency.

POLICY FOR PLANNING A STUDENT SOCIAL ACTIVITY

Student Activity Request Forms can be obtained in the Dean of Student Services Office, Building 16. All college-sponsored student social events must be scheduled at least two weeks prior to the activity. The student chairman and the advisor agree to be responsible for the conduct of all attending students. If police supervision is required, arrangements must be made through the Dean of Administration's Office, Building 16.

NO SMOKING AND FOOD POLICY

Smoking or the consumption of food or beverages is not allowed in any classroom or laboratory. Student lounges are available in each building for these purposes.

MASSACHUSETTS COMMUNITY COLLEGES STUDENT GRIEVANCE PROCEDURE

Definitions-I

A 'grievance' shall mean a complaint which has been filed by a grievant dealing specifically with an allegation concerning any form of discrimination or abrogation of student rights.

A 'grievant' shall mean a student or group of students at the College, or the Student Advisory Commission.

A 'student' shall mean an individual(s) enrolled at the College at the time of the alleged grievance.

Purpose-II

The primary purpose of this procedure is to secure prompt and equitable resolution of a grievance. This includes matters filed under Title IX, Education Amendments of 1972. Customary channels of communication shall be used wherever feasible, in seeking clarification of questions of concern, before the grievance procedure is utilized. Every effort shall be made to maintain confidentiality at each level of this procedure.

Time-III

The number of days indicated at each level shall be considered as a maximum. Every effort should be made to expedite the process. However, the time limits specified may be extended by mutual agreement of the grievant and the person against whom the grievance has been directed, or in the case of extenuating circumstances by his/her immediate supervisor.

Procedure-IV

Level One: Step One - The grievant shall first present his/her grievance orally and informally to the person against whom a grievance exists. This should be done in a reasonable period of time, within thirty (30) calendar days from the date of the grievance action or from the date that the grievant knew of the grievable act.

Step Two - If the grievance is not resolved within five (5) working days, the grievant may present in writing the allegations supporting the grievance, including, all of the known facts to the person against whom the grievance is directed. The person against whom the grievance is directed must respond, in writing, within five (5) working days to the grievant.

Step Three - If the grievance is not resolved within the said five (5) working days, the grievant may present it in writing to the supervisor of the person against whom the grievance is directed. The supervisor must respond in writing within five (5) working days, with his/her decision to the grievant.

Step Four - If the grievance is not resolved within the said five (5) working days, the grievant may present a formal claim in writing, including all the supporting statements and evidence, to the College Student Grievance Committee. Within ten (10) working days after receiving the written grievance, the committee shall state its decision in writing, with all supporting reasons and evidence to the grievant and the person against whom the grievance is directed.

Leval Two: Within five (5) working days after receiving the decision from Level one - step four, the grievant may appeal the decision to the president of the college. This appeal shall be in writing and shall be accompanied by the original complaint and copies of all previous supporting statements, evidence, and decisions. The president shall evaluate the evidence and make his/her decision, in writing, within ten (10) working days after receiving the appeal, to all concerned parties. The decision of the president is final and binding, unless it is alleged that said decision was applied in an arbitrary, cupricious, or non-uniform manner.

Level Three: If the grievant claims the decision of the president is rendered in an arbitrary, capricious, or non-uniform manner, the grievant may refer the matter to the Student Advisory Commission in writing within five (5) working days after receipt of the president's decision. If the Student Advisory Commission finds the allegations reported have some substance in fact, it may, within thirty (30) calendar days, file a written appeal to the President of the Massachusetts Board of Regional Community Colleges.
The President shall render his/her decision, in writing, within ten (10) working days, to the Student Advisory Commission. Said decision is final and binding.

Withdrawal-V
A grievance may be withdrawn by the grievant at any level without prejudice or record.

Hearings and Decisions-VI
At each of the above levels, the grievant and the person against whom the grievance is directed shall be given the opportunity to be present and to be heard. In addition, each party may present, examine, and cross-examine witnesses. All decisions at each level shall be in writing, with the exception of level one-step one, and shall include supporting reasons. Copies of all decisions and recommendations shall be given to both parties.

Reprisals-VII
No reprisals of any kind shall be taken against any participant in the grievance procedure.

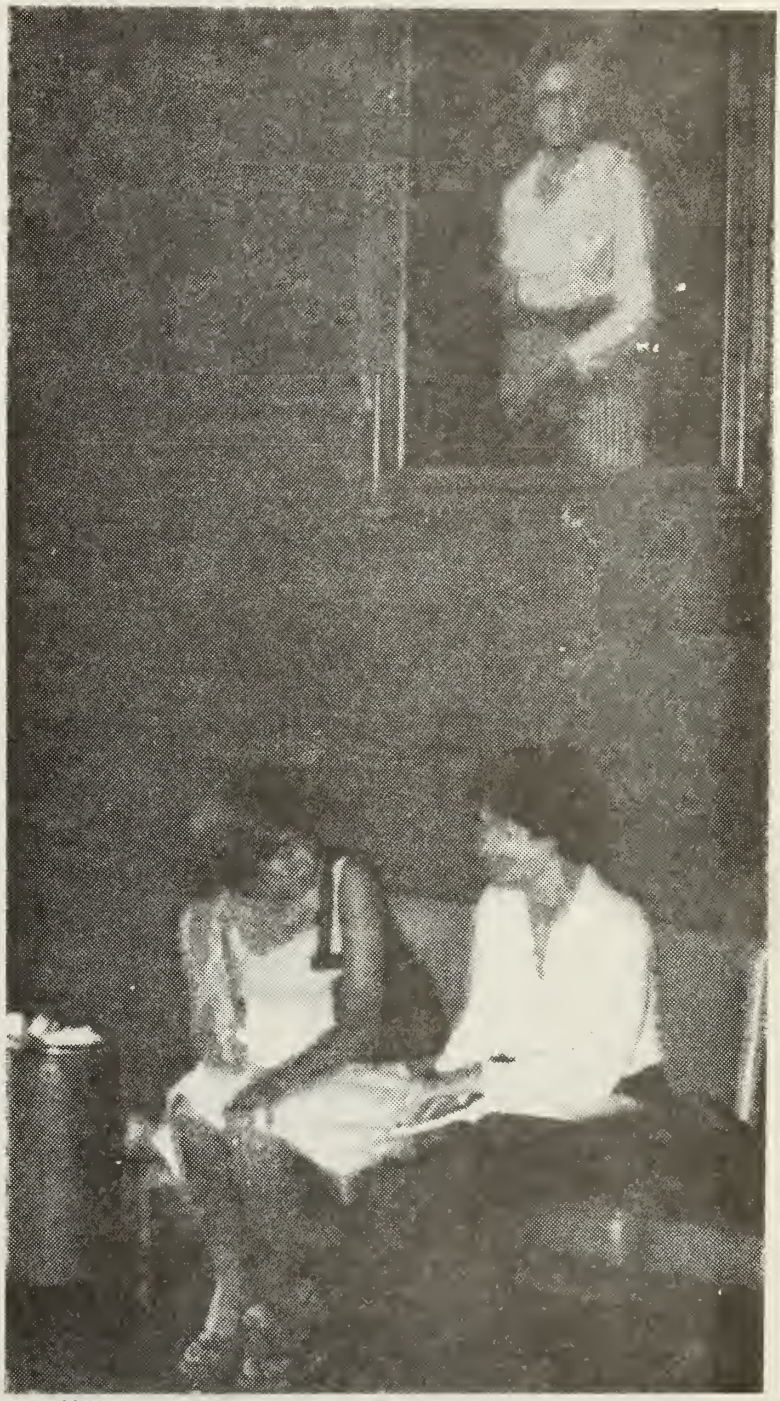
Preservation of Records-VIII
After the final decision has been made, all supporting data shall be preserved for a period not to exceed three years. During this period, the grievant and/or the person against whom the grievance was directed may request in writing that the data be included in or excluded from his/her official college record.

Disclaimer-IX
In the adoption and implementation of this grievance procedure, it shall be understood that at no level is this a court of law and that rules of evidence shall not apply.

Membership of the College Student Grievance Committee-X
The composition of the College Student Grievance Committee shall consist of seven members: 1-classified personnel, 1-administrator, 2-faculty unit members, 2-students. The seventh member shall be from the same identifiable group as the person against whom the grievance has been filed.
In cases of discrimination as they apply to Title IX, the Affirmative Action Officer shall be a non-voting member of the Committee. No member who has a personal interest in the particular grievance shall be eligible to serve on the Grievance Committee. The Student Advisory Commissioner is prohibited from being seated on the College Student Grievance Committee.

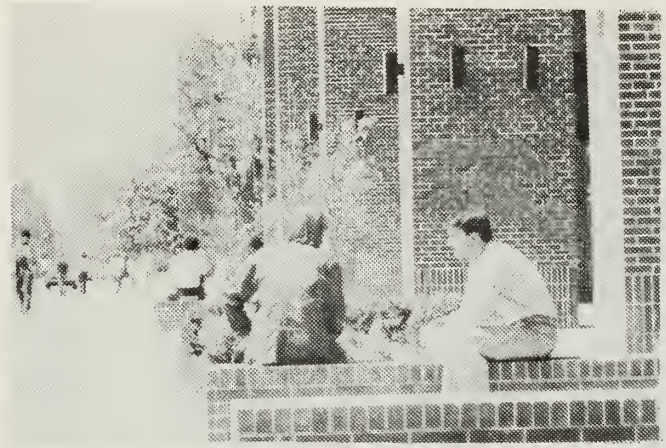
Selection of the College Student Grievance Committee-XI
The selection of the College Student Grievance Committee shall be made from a random selection of candidates assigned to the Student Grievance Committee Pool. This pool shall consist of: 5-classified personnel, 5-administrators, 10-faculty unit members, 10-students. Assignment to the College Student Grievance Committee Pool shall be determined by election and/or appointment by the proper representatives.

Type of Hearing-XII
The hearing shall be a closed meeting (hearings commence at level one-step four).



XIII
A. Filing a grievance in accordance with the procedure set forth above in no way abrogates the student's right to file complaints with the appropriate state and federal agencies or with the courts. However, the grievant's initiation of proceedings in any other forum, waives his/her right to utilize the grievance procedure outlined above.
B. No provision herein contained shall operate to restrict the right of either party to follow the same procedure of appeal as outlined above.
C. All written responses shall be served by delivering in hand a copy to the appropriate person or by the mailing of a registered letter to the appropriate person at his/her residence or at his/her last known residence.

Approved by the Mass. Board of Regional Community Colleges 4/15/77.



CONSTITUTION OF STCC STUDENT ASSOCIATION

Preamble
This constitution is designed to establish an organization within the student body of Springfield Technical Community College.

Purpose
The purpose of the organization is to introduce, develop and promote activities for the general welfare of the student body which will be of mutual benefit to the administration, faculty and staff of the college.

Article 1 - Name
The name of this deliberative body shall be the Springfield Technical Community College Student Government, herein referred to as the Student Senate.

Article 2 - Membership
Membership in the student body or association shall be mandatory for all students carrying twelve semester hours or more. Part-time students shall be excluded from voting and membership in the student association.

Article 3 - Officers
Section 1
The officers of the Student Senate shall be: President, Vice President, Recording Secretary, Corresponding Secretary and Treasurer.
Section 2 - Duties
President:
1. The president shall preside over all meetings of the Student Senate. He shall vote only in case of a tie.
2. The president shall have the power to make emergency decisions for the student senate only if a meeting of that body cannot be called. Such decisions are subject to approval by the Student Senate.
3. The president shall represent the student body at official college ceremonies and upon other occasions where such representation is appropriate.
4. The president shall assume primary responsibility for the fulfillment of the Senate's purposes and shall carry out all formal duties, to this end, in cooperation with the Student Senate.
5. The president shall be a member ex-officio of all committees.
6. The president shall sign all vouchers.
Vice-President:
1. In the absence of the president, the vice-president shall carry out the duties of the president and shall assume all powers and responsibilities, except as otherwise provided for.
2. The vice-president shall be a member ex-officio of all committees.
3. The vice-president shall be chairman of the board consisting of all club presidents and organizational presidents or leaders.
4. The vice-president shall be the representative to the following:
a. Five College Council
b. Student directions or grievance committee
c. Student activities committee
Recording Secretary:
1. The recording secretary shall keep the accurate minutes of the meetings of the Student Senate and shall have a prepared report of the previous meeting to be read at every meeting.
2. The recording secretary shall note attendance at each meeting and shall report any excused or unexcused absence to the Senate.
Corresponding Secretary:
1. The corresponding secretary shall carry on and maintain all correspondence of the Student Government.
2. The corresponding secretary shall approve all official correspondence between student clubs and activities of the college and student organizations at other colleges and institutions of learning.
Treasurer:
1. The treasurer shall keep records of the accounts of the Student Association, Student Senate, Student Activities and clubs.
2. The treasurer shall submit a proposed budget for approval by the Student Senate for the Student Association the first week in October.
3. The treasurer shall render a financial report at regular Student Government meetings.
Parliamentarian:
1. He shall be appointed by the president and approved by the senate.
2. He shall be the official on all rulings dealing with procedure and the constitution.
3. He shall be chairman of the review board.

Article 4 - Student Senate Membership
Section 1
Each class (Freshman and Senior) shall have five duly elected class representatives. These representatives shall be known by the official title of senator.
Section 2
The student body as an entity shall be represented by five duly elected members to the representative body. These representatives shall be known by the official title of senator.

Article 5 - Student Government
Section 1
The Student Senate shall act as the chief legislative body of the Student Association and serve as a medium through which members of the Association may present ideas and suggestions for the improvement and general welfare of the entire student body.
Section 2
A quorum of the Senate shall consist of two-thirds of its members. Senate members shall discuss and evaluate suggestions for improvement of the general welfare of the entire student body.

Section 3
Senate members shall discuss and evaluate suggestions and present them in the form of resolutions or recommendations to the Student Senate. Such resolutions or legislation must be passed by the majority of the Student Senate. Senate members shall be responsible for keeping fellow students informed of the activities and decisions of the Student Senate.
Section 4
1. Regular meetings of the Student Senate shall be held once a week at a time and a place to be specified at the beginning of each semester or at the call of the president.
2. No meeting shall be held unless a quorum is present.
3. The Student Senate may call a special meeting of the Student Association at any time. Notice of this meeting must be posted at least two days in advance (on the bulletin board).

Section 5
Any Student Government member who has unexcused absences as determined by the Student Senate, for two consecutive meetings, will be subject to review by the Student Senate.

Article 6 - Student Activities Committee

Section 1
The membership of this committee shall consist of a chairman appointed from the Student Senate and five members of the Student Association. The president of the Student Senate shall select this committee subject to approval of the Student Senate.
Section 2
1. This committee shall review all applications for the organization of new student clubs and organizations and shall recommend to the Student Senate the acceptance or rejection of such applications.
Section 3
1. This committee shall assist any group of fifteen or more students to form a college club or activity.
2. This committee shall give a list of legally operating clubs to the Dean of Students each semester.
3. The constitutions of such clubs must be approved by this committee at its next scheduled meeting and then brought before the Senate for final approval.
4. The chairman of this committee or the faculty advisor shall have the authority to request to the Student Senate that an organization may be disbanded and its funds be frozen if it fails to comply with the rules and regulations of the Student Senate.
5. Only approved student activities shall receive money from the Student Senate.
6. Any student activity or club may present its case before the Student Senate when it believes it has not been given fair treatment.

Article 8 - Dues
Section 1
There will be an annual dues, called the Student Activity Fee, for all members as determined by the Student Senate and approved by the Massachusetts Board of Regional Community Colleges.
Section 2
Student activity fees are payable by all students as part of registration in college.

Article 9 - Amendments
Section 1
Any student may propose an amendment to the Constitution of the Student Association to the Student Senate.
Section 2
Any proposed amendment to the Constitution must be found to be in order and purposeful by two-thirds vote of the Student Senate.

Article 10 - Amendments of the By-Laws
By-laws to this Constitution must be reviewed by the Student Senate before being voted on. By-laws become effective on a two-thirds vote of the Student Senate.

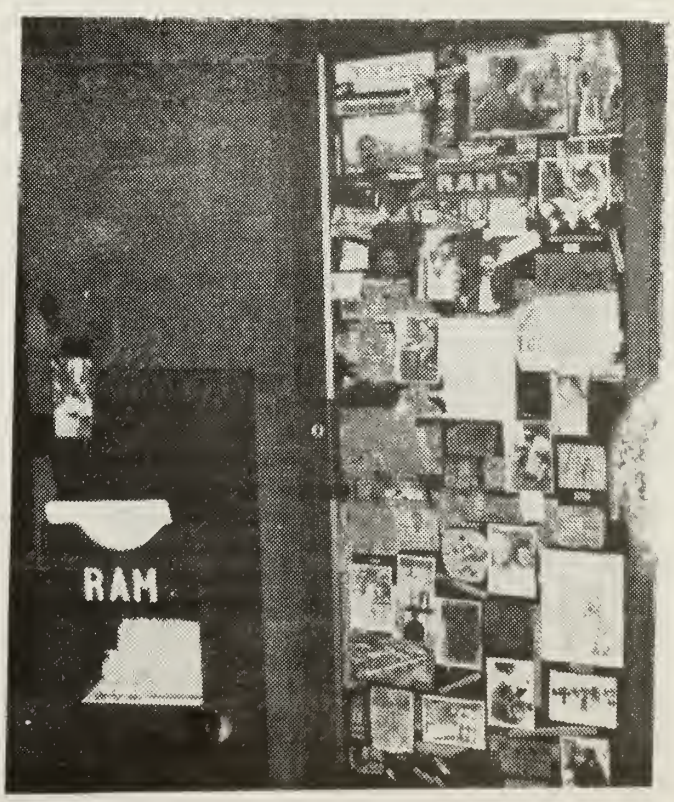
Amendment on Impeachment
Procedure for impeachment will be presentation of a petition signed by not less than two-thirds of the student body calling for a referendum vote. Upon receipt of this petition the subject(s) shall be censured from all duties connected with his office until a general election can be held. The election shall be held in not more than one week's time and must consist of seventy percent of the student body.

Amendment to Article 8, Section 2
If this amendment is defeated by the Student Senate,it may be overruled by a majority vote of the student body.

Amendment to Article 3, Section 1
Any student government member may not hold an office in a club.

Amendment to Article 3, Section 2
Position of Student Trustee is a duly qualified member of the Student Government executive board.

Amendment to Article 3, Section 2
No student may hold an elected position(s) in the Student Senate in excess of four semesters.



THE COMMONWEALTH TRANSFER COMPACT

Students planning to transfer to a four year college or university, particularly a public one, in Massachusetts may find the Commonwealth Transfer Compact most helpful in achieving the transfer desired and in receiving maximum award of transfer credit toward a baccalaureate degree.

The Massachusetts Board of Regional Community Colleges endorsed the Commonwealth Transfer Compact, a policy enacted in May, 1974, to facilitate student mobility in Massachusetts public higher education. A number of private colleges in Massachusetts, although not signatories to this agreement, generally adhere to its provisions.

. . . . .

THE COMPACT

The Compact guarantees that a student who fulfills the course distribution requirements stipulated in the Compact and holds an A.A. or A.S. degree from a Massachusetts community college and who subsequently transfers to a four-year public institution in Massachusetts will be awarded:

(1) at least 60 semester hours of work toward a baccalaureate degree and

(2) at least 33 credit hours toward fulfillment of the General Education (core) requirement.

Further, the associate degree holder who is accepted for transfer under the Compact will be subject to no special requirements beyond those specified as major department and/or graduation requirements for students who originally enrolled in the four-year institution as freshmen.

An associate degree which is transferable as a unit (contingent upon acceptance for admission) under this policy is defined as the equivalent of at least 60 hours of undergraduate college-level study, including:

a. 6 hours of English/communications
b. 9 hours of behavioral/social sciences
c. 9 hours of humanities/fine arts
d. 9 hours of mathematics/sciences
e. the remaining credits to be on a college level

ADDITIONAL INFORMATION ABOUT THE COMPACT:

1. Students changing programs (e.g. liberal arts to engineering) may expect that it will require more than four semesters to complete the sequence of a new major.

or a student meeting Transfer Compact requirements, "D" will be accepted toward the baccalaureate degree, but a ng institution is required to apply "D" credit toward a only if it does so for "native" students: that is, students enrolled in the four-year institution as freshmen.

3. Course credit for transfers from programs not conforming to Compact specifications will be evaluated by the receiving institution according to the applicability of these courses to the baccalaureate program in the major field of the student.

The courses listed below offered at STCC meet the intent of the Commonwealth Transfer Compact. It should be understood that, in addition to these General Education courses, many of STCC's other courses are transferable.

Students who plan to transfer should consult with their faculty advisors, department chairmen and/or the transfer counselor.

The following courses offered at STCC can be considered transferable to 4-year colleges under the Compact.

ENGLISH COMMUNICATIONS

No./Title	Credits
1004 - English Composition 1	3
1005 - English Composition 2	3
1006* - Business English	3
1007 - Fundamentals of Speech	3
1008 - Technical Report Writing	3

*Transferable dependent on College to which transferring and/or major concentration.

HUMANITIES/FINE ARTS

No./Title	Credits
1009 - World Literature 1	3
1010 - World Literature 2	3
1012 - English Literature 1	3
1013 - American Literature 1	3
1014 - American Literature 2	3
1015 - Irish Literature	3
1018 - Children's Literature	3
1019 - English Literature 2	3
1023 - Women in Literature	3
1025 - Love and Marriage: Literary Perspectives	3
1104 - A Survey of Black American Literature 1	3
1105 - A Survey of Major American & European Poets	3
1107 - A Survey of Major American & European Novels	3
1108 - A Survey of American & European Short Stories	3
1114 - Directed Study in Fine Arts	Variable
1115 - Directed Study in Writing	Variable
1116 - Directed Study in Literature	Variable
1118 - Directed Study in Art	Variable
1121 - Directed Study in Drama	Variable
1122 - Directed Study in Speech	Variable
1124, 1125, 1126 - College Theater Workshop 1,2,3	1,2, or 3
1127 - Introduction to the Theater	3
1137 - The Bible as Literature	3
1138 - A Survey of Black American Literature 2	3
8080 - Music Appreciation	3
8095 - Music for Early Childhood Education	3
8096 - Art History 1	3
8097 - Basic Drawing	3
8101 - Early Childhood Art Education	3
8102 - Art History 2	3
8104 - Drawing Composition	3
8108 - Painting 1	3
8109 - Painting 2	3
8112 - Basic Concepts of 2-Dimensional Design	3
8113 - Basic Concepts of 3-Dimensional Design	3

BEHAVIORAL/SOCIAL SCIENCES

No./Title	Credits
4006 - Anthropology 1	3
4008 - Sociology 1	3
4009 - Social Problems	3
4010 - Sociology of the Family	3
4012* - History of Western Civilization 1	3
4013* - History of Western Civilization 2	3
4014 - Economics 1	3
4015 - Economics 2	3
4017 - Comparative Economic Systems	3
4081* - Survey of Early United States History	3
4082* - Survey of Modern United States History	3
4085 - Child Development Psychology	3
4086 - General Psychology	3
4087 - Principles of Normal/Abnormal Behavior	3
4099 - Race and Ethnic Relations	3
4083 - American Government and Politics	3
4084 - European Comparative Government	3
4112 - International Relations-World Politics	3

*Some 4-year colleges consider History a Humanities course.

MATHEMATICS/SCIENCE

No./Title	Credits
2012 - Math 22	4
2013 - Math 23	4
2014 - Math 24	4
2016 - Statistics	3
2020 - Engineering Mathematics	3
2076 - Contemporary Mathematics 1	3
2077 - Contemporary Mathematics 2	3
2080 - Finite Mathematics 1	2
2081 - Finite Mathematics 2	3
2082 - Analytic Geometry & Calculus 1	3
2083 - Analytic Geometry & Calculus 2	3
2085 - Analytic Geometry	3
2086 - Calculus 1	3
2087 - Calculus 2	3
2088 - Calculus 3	3
2331-2333 – Programmed Math (1 cr. per module)	3
2334 - Slide Rule	1
2341-2343 – Programmed Math	1 cr. per module
2344 - Introduction to Calculus	1
2350-2353 - Mathematics, 1cr. per module	4
2354-2357 - Mathematics, 1 cr. per module	4
2358-2361 - Mathematics, 1 cr. per module	4
2362-2365 - Mathematics, 1 cr. per module	4
3002* - Chemistry 1	4
3005 - General Chemistry 21	4
3006 - Genera' Chemistry 22	4
3010 - Physical Science 1	4
3011 - Physical Science 2	4
3012 - Physics 1	4
3013 - Physics 2	4
3015 - Physics 21	5
3016 - Physics 22	5
3017 - Physics 23	5
3026 - Ecology	4
3028 - Microbiology	4
3031 - Physics 11	4
3032 - Physics 12	4
3051 - Investigations in Biology 1	4
3052 - Investigations in Biology 2	4
3079 - Introductory Zoology	4
3080 - General Biology 1	4
3081 - General Biology 2	4
3091 - Anatomy & Physiology 1	4
3092 - Anatomy & Physiology 2	4
3096 - Introductory Astronomy 1	4
3097 - Introductory Astronomy 2	4
3100 - Principles of Biology 1	4
3101 - Principles of Biology 2	4
3109 - General Chemistry 101	4
3110 - General Chemistry 102	4
3111-3114 - General Chem. 21 (programmed)	1 cr. per module
3115-3118 - General Chem. 22 (programmed)	1 cr. per module
3311-3314 - Programmed Physics	1 cr. per module.

*Transferability dependent upon College to which transferring and/or major concentration.



DIVISION OF CONTINUING EDUCATION

Springfield Technical Community College offers through its Division of Continuing Education a wide range of offerings to meet local, social, economic, cultural, and civic needs. These offerings may be credit or non-credit, depending upon individual preference.

The Division of Continuing Education also fosters associations with various groups and organizations within the relatively large urban region served by the College. From time to time, conferences, institutes, and seminars are offered by the Division for those people in the region who have evidenced an interest in a particular subject or discipline. The offerings are carefully selected to meet predetermined community and individual needs.

Many times programs of instruction are generated by the employment picture persisting in the Springfield area. Employers themselves often instigate the development of new courses and program in collaboration with the College. College personnel constantly seek out new and developing areas requiring assistance from the school in the form of complete two-year technical programs, vocational preparatory courses lasting from several days to a year or more in length, and short vocational courses designed to up-grade the working man's skills. From these efforts a constantly expanding technical and career program base is developed, supplemented by special activities to serve both the short range and recurring needs of the community.

The Division of Continuing Education operates on a self-sustaining basis, according to the General Laws of the Commonwealth, designed to meet the needs of the community for higher education. As the program has developed if offers:

1. continuing education for adults, on both credit and non-credit basis, in general and specialized educational fields;
2. the opportunity to earn credit toward the associate degree, enabling the student to:
   a. enter or re-enter the College as a full-time student;
   b. complete degree requirements;
   c. matriculate in the evening session and summer session.

The Division of Continuing Education will assist students to pursue their educational objectives in every way possible.

Courses offered include: (1) freshman credit courses, for which a high school diploma (or its equivalent) is required; (2) advanced credit courses, requiring certain freshman prerequisites; (3) non-credit courses; (4) freshman courses as part of a program to provide entrance to the College as a full-time student.

These offerings are designed to furnish opportunities to: (1) resident students of Springfield Technical Community College to supplement the work of the regular college year by additional elective courses; (2) students of other colleges and universities to take courses for credit transferable to their resident college; and (3) high school students who wish to remove academic deficiencies before entering college in September. The offerings also seek to furnish an opportunity for intellectual pursuit and continuing education to those who may not wish to work for a college degree or who may already have one.

The two semesters of the Division closely correspond with the calendar of the day college. The evening session offers a balanced selection of courses in the principal areas of study offered by the College. Academic standards are the same as in the day program.

Any credit course in the Division of Continuing Education may be taken for no credit (NC) at the regular rates applying to credit courses. Non-credit courses do not qualify for federal financial aid.





COURSES OF STUDY

ACADEMIC PROGRAMS

In an attempt to provide the most comprehensive variety of educational experiences and match these with the specific needs of the individual student, the College offers many academic programs. In the main, these fall into four categories: College transfer programs, career programs, cooperative education program and student development.

TRANSFER PROGRAMS

The transfer curricula are designed for students who plan to transfer to a senior college or university after completion of one or two years at STCC. The courses offered in these curricula are generally those required to provide a broad educational background before beginning specialization in a major field of study. A high quality of academic achievement, revealing seriousness of purpose and sound habits of study, is the most important qualification for successful transfer.

Three transfer programs are offered at Springfield Technical Community College:

1. Business Administration
2. Engineering and Science
3. Liberal Arts and Sciences

Many students attending the College consider, at some point in their career, transferring to a four-year institution. There are numerous specific programs at STCC that are designed with that purpose in mind. Students enrolled in these programs should be in early and constant contact with a transfer counselor so that their course progress toward transferring to a four-year institution is expedited.

Springfield Technical Community College is a member of the Commonwealth Transfer Compact. With some limitations, an Associate Degree from STCC will be honored as a unit toward transfer to a state university or college. Further information relative to transfer from specific programs is available from the College's Transfer Counselor.

CAREER PROGRAMS

STCC offers a variety of Career Programs that are designed primarily for the individual seeking two years of training and immediate job opportunities upon graduation. Such Career Programs are available in the Engineering Technologies, Medical Health Services, Business Administration and Community Service Technologies.

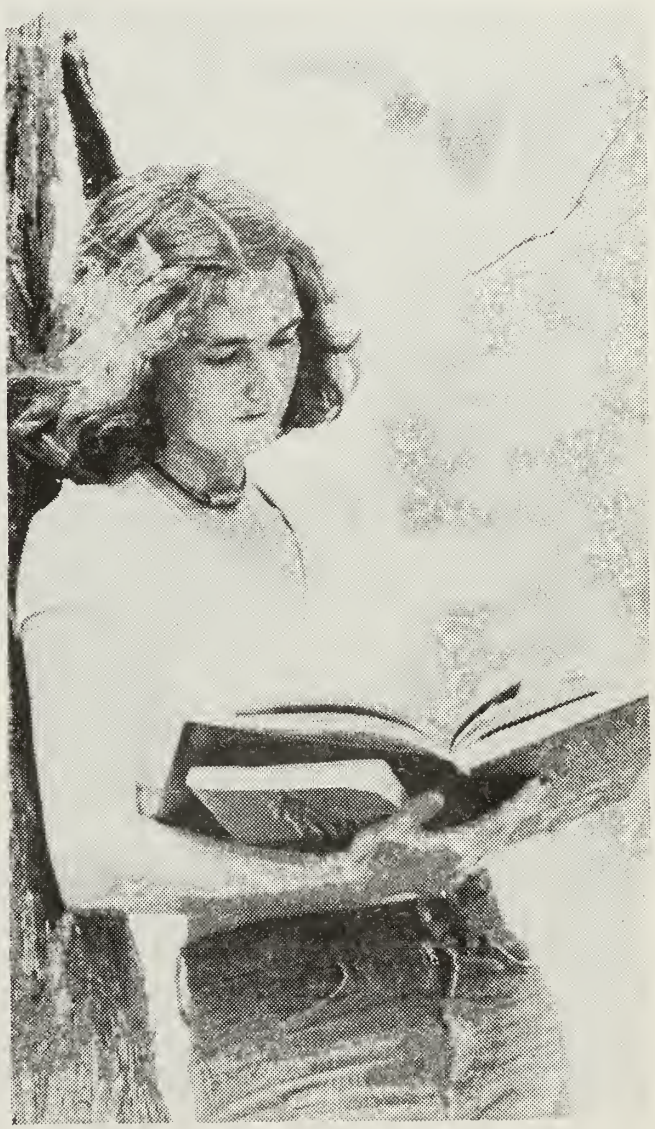
Each of the Career Programs offer a two-fold objective: The student receives a general education background to provide him with a better understanding of the community around him and a technical preparation designed around a specific occupation.

Although the Career Programs are not intended to be transferable to a four-year college or university, many students do seek to continue their education beyond the two-year level. Students in this situation are advised to obtain advice from their college counselor early in their program.

COOPERATIVE EDUCATION PROGRAM

Via Co-op, as the program is known, students make career achievements while still in college. These achievements usually translate into meaningful jobs at graduation -- jobs which are often at higher levels and better salaries than those obtained by students who do not join Co-op.

The advantages of the program are many. Co-op allows a student to "test" the waters of his or her career choice; it involves the student on a daily basis in the human relations aspect of work. Since employers usually look for people with related work experience, it provides an inside track to jobs after graduation. A Co-op student is paid by his employer and thus substantial financial assistance is provided while he is still in school. Cooperative Education is an ideal way to bridge the gap between the classroom and the world of work.



INDIVIDUAL LEARNING CENTER—MATHEMATICS

The Individual Learning Center offers a curriculum which includes Basic Arithmetic, Elementary Algebra, Advanced Algebra and Trigonometry.

Through the use of audio and video tapes, and programmed textbooks, a student may proceed at a rate which is commensurate with his or her ability.

Additional assistance is provided by mathematics professors who are assigned to individual classrooms in the Center, and by student tutors who are also assigned to the Center. In addition to the regularly assigned classroom hours, a student may use the facilities of the Center any time that space is available.



CURRICULA OF THE COLLEGE

ALLIED HEALTH SCIENCES

Dental Assisting (1 year)
Dental Hygiene
Emergency Medical Technician**
Medical Assistant
Medical Laboratory Technician
Nuclear Medical Technician
Nursing
Occupational Therapy**
Operating Room Technician
Physical Therapist Assistant
Radiation Therapy
Radiologic Technology
Respiratory Therapy

BUSINESS ADMINISTRATION/ DATA PROCESSING/SECRETARIAL SCIENCES

Accounting
Bilingual Secretarial
Business Transfer
Clerical Office Assistant (1 year)
Court Stenography
Data Processing
Executive Secretarial
Finance
General Business
Legal Secretarial
Management
Marketing
Medical Secretarial

HUMAN AND COMMUNITY SERVICES

Cosmetology (1 year)
Early Childhood Education
Fire Protection and Safety Technology
Law Enforcement
Mental Health
Occupational Safety and Health Technology

LIBERAL ARTS AND SCIENCES

American Studies
General Studies
Liberal Arts Transfer
Modern Studies

ENGINEERING TECHNOLOGIES

Advanced Metal Machining Technology
Automotive Technology
Bio-Medical Technology
Civil Engineering Technology
Computer Maintenance Technology
Drafting and Design Technology (1 year)
Electrical Technology
Electro Mechanical Technology
Electronic Benchwork Technology
Electronics Technology
Environmental Technology
Facilities Engineering Technology**
Graphic Arts Technology
Heating/Power/Air Conditioning Technology
Landscape Technology
Laser Electro-Optics Technology
Machine Design Technology
Solar Energy:Option to Heating/Power
Air Conditioning Technology
Telecommunications Technology

ENGINEERING & SCIENCE TRANSFER

Engineering Transfer*
- Chemical
- Civil
- Electrical
- Environmental
- Industrial
- Mechanical

Science Transfer*
- Biology
- Chemistry
- Mathematics
- Physics
- Pre-Dental
- Pre-Engineering
- Pre-Medical
- Pre-Veterinary

*(Degree awarded is A.S. in Engineering or A.S. in Science. Students may concentrate in the subject areas listed)

**Planned Implementation, September 1979. Subject to program approval by the Massachusetts Board of Regional Community Colleges and the Massachusetts Board of Higher Education.



VETERANS INFORMATION

DAY STUDENTS

All veterans eligible to receive V.A. benefits must contact the Office of Veterans' Affairs upon receiving their acceptance letters.

All returning veterans receiving V.A. benefits must contact the Veterans' Office after registration for the upcoming semester. Registering with the School does not certify an eligible veteran for V. A. benefits for the upcoming semester. All eligible veterans must contact the Veterans' Office in person to initiate enrollment certification.

EVENING STUDENTS

The following are the procedures to be followed by veterans eligible to receive V. A. benefits:

1. academic counseling is required before payment of tuition and fees,
2. paid receipt to confirm enrollment must be brought to the Office of Veterans' Affairs to initiate enrollment certification.

NOTE: All veterans receiving V. A. benefits must contact the Office of Veterans' Affairs upon withdrawing from a course or terminating enrollment, changing an address, changing dependent status or changing an academic program.

All veterans should contact the Financial Aid Office to investigate eligiblity for Federal and State grants and scholarships.

ACADEMIC STANDING

The quality point index required to maintain acceptable academic standing in an approved program of study in either the Day School or the Division of Continuing Education is as follows:

Beginning of the second semester of enrollment, a quality point average of 1.5.

Beginning of the their semester of enrollment, a cumulative quality point average of 1.7.

Beginning of the fourth semester of enrollment, a cumulative quality point average of 1.9.

For Continuing Education purposes, the completion of 12 semester hours will be considered the completion of a semester.

Students receiving benefits from the Veterans Administration are advised that if their quality point average does not permit them to remain in a program, they may continue to attend Evening Division courses at their own expense until their average allows them to re-enter the program.

Veterans are cautioned that the V. A. will not provide benefits to repeat a course which has been previously passed, nor will they support courses which do not meet the requirements for an approved program of study.

Students receiving benefits from the Veterans Administration are advised that benefits will be extended only for the normal length of time that an approved program is designed to encompass. Full-time students must complete Associate Degree Programs in two years. Part-time students will receive reduced benefits for the extended period of time necessary to complete their program of study. Specific questions about benefits, program approval and eligibility will be answered by the V. A. Office on campus.

ADD DROP LIMITATION AND PENALTIES

A student may add or drop a course within one week of the last registration day in either the Day School or the Division of Continuing Education without penalty; thereafter, a $3 late fee is charged. (Refer to Page 10.) The final date for adding a course is two weeks from the first day of classes.

GRADING PROCEDURE AND UNSATISFACTORY GRADE

STCC makes use of a scale from "A" to "F" converted into quality points which are utilized in formation of a cumulative average. A grade of "F" equals 0 quality points and is unsatisfactory. A "D" equals .07 and may count toward a degree if the quality point cumulative average is maintained with respect to degree specifications. (Refer to Page 9.) The Veterans Administration does not authorize benefits for courses which are audited or challenged. A withdrawal or termination from a course could constitute an overpayment for the veteran.

WITHDRAWALS AND ABSENCES

All students are required to notify the registrar of withdrawals or terminations. Veterans receiving benefits must also contact the Office of Veterans' Affairs. Attendance procedures are at the discretion of the faculty.

Students receiving Veterans Administration benefits will be considered to be making satisfactory progress in each course each semester at the following intervals:

1. If their name appears on the official class list certified by the instructor at the end of the official add/drop period.
2. If they receive a mid-semester grade.
3. If they receive a final grade.

In the event any of 1.) through 3.) does not occur, the V. A. will be notified within 30 days after the enrollment report or grade report has been issued that said veteran is not enrolled in the course.

Faculty members may request the Dean of Students to withdraw a student for excessive absences.



Allied Health Sciences

DENTAL ASSISTING

The Dental Assisting department strives to educate students in all phases of dental assisting, including chairside, business and laboratory procedures. Preparation is accomplished through lectures, seminars, laboratory and clinical sessions. In addition to the preceding courses of study, a clinical-affiliation program is offered in conjunction with the cooperation of area dentists. This clinical training is conducted off campus in various dental offices in the area.

Applicants must have an academic background in English, Biology (with a lab), Mathematics and Typing. The Scholastic Aptitude Test (SAT) must be taken and a score totaling 800 must be achieved. Prospective students are also expected to take the Dental Assisting Aptitude Examination. A college preparatory course in high school and an average academic rank in the upper 1/2 of the graduating class are also necessary. A personal interview with the department chairperson is required.

The Dental Assisting Program has two primary objectives: to prepare the students for employment as a professional member of the dental team, functioning as a competent dental assistant after graduation and to prepare and motivate students to continue their dental education by obtaining a degree in dental hygiene, or a baccalaureate degree. Advanced degrees will enable the qualified student to participate in broader areas of the dental profession.

The Dental Assisting curriculum conforms to the standards that are required by the Commission on Accreditation of Dental and Dental Auxiliary Educational Programs. Students who successfully complete the Dental Assisting Program graduate with a Certificate in Dental Assisting and are eligible to take the Dental Assisting Certification Examination.

The minimum grade requirement for the Dental Assisting Program is a grade of "C" (2.0) in each course. Upon the successful completion of this program, a certificate in Dental Assisting will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
7025	Dental Sciences 1	3		3
7083	Dental Radiology	1	2	2
7084	Dental Anatomy	2		2
7082	Dental Materials	2	2	3
7023	Dental Assisting Techniques 1	2	2	3
5006	Dental Records	2		2
3141	Bio. Sys. for Dental Assisting	1		1
3856	Microbiology for Dental Assistants	1		1
		17	6	20

SEMESTER 2

No.	Course Title	Class	Lab	Credits
4086	General Psychology	3		3
7024	Dental Assisting Techniques 2	2	2	3
7026	Dental Sciences 2	3		3
1007	Fundamentals of Speech	3		3
7065	Clinical Affiliation		19	5
7142	Seminar in Dental Assisting	1		1
		12	21	18

3141 - BIOLOGICAL SYSTEMS FOR THE DENTAL ASSISTANT 1 credit

This course is designed to review the nine basic biological systems. Emphasis is placed on normal structure and function. Included will be the study of diseases and abnormalities relating to each specific system. *Offered Fall Semester*

7025 - DENTAL SCIENCES 1 3 credits

This course is primarily designed to educate the student in all phases of diet, nutrition, and oral health. Included will be the study of nutritional diseases entities that may be manifested in the oral cavity. Nutrition counseling as well as dietary information will be included for the student's everyday needs. *Offered Fall Semester.*

7083 - DENTAL RADIOLOGY 2 credits

As an important segment in the dental assistant's training, this course includes the theoretical background of radiation production as well as various techniques of exposure, processing and interpretation of radiographic findings. Safety precautions are stressed as the student learns intro-oral techniques through lecture, slides, visual aids, demonstrations and practice on mannequins and patients. *Offered Fall Semester*

7065 - CLINICAL AFFILIATION 5 credits

Since this college does not have a dental school with which to affiliate, this portion of training is accomplished through the continued interest and cooperation of our area dental society. At this time, the student should be able to expand his/her dental assisting education and improve skills and techniques under the direct supervision of the dentists, clinical instructors and local hospitals. *Offered Spring Semester*

7084 - DENTAL ANATOMY 2 credits

This course is designed as an overview of the structural composition and physiological activities of the teeth, oral cavity, head and neck. Lectures and demonstrations will be designed to enhance the appreciation of anatomical principles and concepts which underlie the practice of dentistry. *Offered Fall Semester*

3856 - MICROBIOLOGY FOR DENTAL ASSISTANTS 1 credit

This course is designed to present the practical and elementary theoretical aspects of microbiology. Emphasis will be placed on sterilization, disinfection and aseptic techniques utilized in the dental office. History, structures, development and types of bacteria will also be discussed. *Offered Fall Semester*

7082 - DENTAL MATERIALS 3 credits

Designed to familiarize the student with office procedures, this course includes both lecture and laboratory practice. Focus is placed on the interaction of dental materials and the oral environment. Terminology, composition, chemistry, and clinical properties will be investigated. Each student will learn to manipulate given materials utilized in the dental office. *Offered Fall Semester*

7023 - DENTAL ASSISTING TECHNIQUES 1 3 credits

This course combines lectures, demonstrations and student participation in all facets of dental assisting. The course



primary objective is to provide the student with a complete overview of the assistant's role in the practice of modern dentistry. Topics to be discussed include instrumentation, four-handed dentistry, and the use and care of dental equipment. A two-hour laboratory session is taught in conjunction with the course. At that time, the student is familiarized with the practical aspects of dental assisting which include clinical experience. *Offered Fall Semester*

5006 - DENTAL RECORDS *2* credits

This is a one semester course designed primarily for the dental assistant. This course covers basic business procedures which are essential to the effective management and control of the dental office. Business skills are reviewed and developed for practical application in the office. Included are procedures in filing, banking, billing, managing the appointment book, organizing a preventive recall system, insurance, tax forms, and all types of financial transactions which might be found in the dental practice. The student is also familiarized with dental charting procedures and telephone techniques.

Offered Fall Semester

7024 - DENTAL ASSISTING TECHNIQUES 2 3 credits

A continuation of the first semester, this course seeks to advance the skill and dexterity of the student in all techniques. There is a coordination of activities in an effort to combine efficient chairside performance with general dental assisting tasks. The student will also receive lectures on ethics and jurisprudence as they pertain to the practice of dentistry. Guest speakers will be utilized to help the instructors relate this information to the student. *Offered Spring Semester*

7026 - DENTAL SCIENCES 2 3 credits

A continuation of first semester, this course also includes background in pharmacology, office emergencies and first aid.

Offered Spring Semester

7142 - SEMINAR IN DENTAL ASSISTING 1 credit

This course is designed to familiarize the students with the eight dental specialties that are found in dentistry. This is accomplished through lectures and presentations by guest speakers who are qualified in their respective fields.

Offered Spring Semester

DENTAL HYGIENE

The Dental Hygiene program seeks to educate men and women who are able to function as competent dental hygienists to provide preventive oral health services for the public in private dental offices, clinics and schools. The graduates will be prepared to sit for the National Board Examination in Dental Hygiene as well as for State Board Examinations which together lead to licensure to practice. Immediate employment will be available upon graduation and the opportunity for further education at the baccalaureate level is also possible.

Applicants must have an academic background in biology, chemistry and mathematics. The Scholastic Aptitude Test (SAT) must be taken and scores totalling 900 must be achieved. The Dental Hygiene Aptitude test must also be taken. A college preparatory course in high school and academic rank in the upper 1/4 of the graduating class are also necessary. A personal interview is recommended.

The Dental Hygiene department has two primary aims: to prepare students for employment as dental hygienists immediately after graduation and to prepare and motivate students to continue their education in the field of dental hygiene by obtaining the baccalaureate degree. Advanced degrees will enable participation in broader areas of dental hygiene.

All courses listed in the curriculum are required for graduation from the Dental Hygiene program.

The minimum grade requirement for the Dental Hygiene program is a grade of "C" (2.0) in each course. Upon the successful completion of this program, the degree of Associate in Science in Dental Hygiene will be awarded.

SEMESTER 1

No.	Course Title	Class	Leb	Credits
3138	Biochemistry	3		3
1004	English Composition 1	3		3
3091	Anetomy & Physiology 1	3	3	4
7120	Oral Anatomy	2	2	3
7121	Intro. to Dentel Hygiene	2	6	4
7136	Dental Radiology	1	2	2
		14	13	19

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	Composition 2: Intro. to Literature	3		3
7125	Nutrition	2		2
3028	Microbiology	3	3	4
7128	Oral Pathology & Histology	3		3
3092	Anatomy & Physiology 2	3	3	4
7129	Clinical Dental Hygiene 1	1	6	3
		15	12	19

SEMESTER 3

No.	Course Title	Class	Lab	Credits
4086	General Psychology	3		3
7131	Pharmacology	2		2
7126	Periodontology	2		2
7127	Dental Materials	1	3	2
7132	Dental Specialties	2		2
7133	Clinical Dental Hygiene 2	1	12	5
		11	15	16

SEMESTER 4

No.	Course Title	Class	Lab	Credits
7138	Dental Hygiene Practice Mgt.	2		2
7139	Expended Functions/Dental Hyg.	2	2	3
1007	Fundamentals of Speech	3		3
4008	Intro. to Sociology 1	3		3
7134	Clinical Dental Hygiene 3	1	12	5
7130	Community Dental Health	3		3
		14	14	19



3138 - BIO-CHEMISTRY FOR THE HEALTH SCIENCES 3 credits

An introduction to biochemical principles. Emphasis is on the major metabolic pathways, the mechanisms of enzyme action, bioenergetics and the role of hormones and other regulatory substances. This course is restricted to students in the Dental Hygiene program. PREREQUISITES: General Biology, Chemistry or permission of instructor.

7120 - ORAL ANATOMY 3 credits

Study of the structural composition and physiological activities of the teeth, oral cavity, head and neck. Emphasis on nomenclature, dento-osseous structures, nerves, blood vessels and muscles. Lectures, demonstrations, programmed instruction and laboratory exercises designed to enhance the application of anatomical principles and concepts to the practice of dentistry and dental hygiene.

Offered Fall Semester

7121 - INTRODUCTION TO DENTAL HYGIENE 4 credits

Lectures and preclinical laboratory sessions are presented to introduce the etiology and prevention of dental diseases, normal oral conditions and common deviations, theory and practice in specific clinical techniques in the practice of dental hygiene. Lectures, laboratory and preclinical sessions are coordinated. *Offered Fall Semester*

7125 - NUTRITION 2 credits

Basic principles and concepts of nutrition studied with emphasis on relation to oral health, caries control and general health. Orientation to counseling techniques for diet modification in the practice of preventive dentistry. PREREQUISITE: 3138. *Offered Spring Semester*

7126 - PERIODONTOLOGY 2 credits

This course is an introduction to periodontology, covering etiology, prognosis and treatment of the periodontally involved patient. Techniques of history taking and oral inspection will be discussed. The role of the dental hygienist in patient education and preventive dentistry will be stressed. PREREQUISITE: 7120, 7121. *Offered Fall Semester*

7127 - DENTAL MATERIALS 2 credits
The chemical and physical properties of materials used to restore teeth are studied. Laboratory practice is provided to teach the manipulation of amalgam, waxes, stone, plaster and other materials used in dentistry. PREREQUISITE: 3138.
Offered Fall Semester

7128 - HISTOLOGY & ORAL PATHOLOGY 3 credits
A study of the cells, tissues and other microscopic elements that compose the oral cavity. Embryological development of oral structures will be considered. The fundamentals of the disease process and pathologic conditions of the oral cavity will be studied. PREREQUISITE: 7120.
Offered Spring Semester

7129 - CLINICAL DENTAL HYGIENE 1 3 credits
A continuation of Introduction to Dental Hygiene with supervised clinical experience. The student will be given the opportunity to render primary preventive oral health care at the S T C C dental facilities and extra-mural sites. One hour lecture, six hours clinic. PREREQUISITE: 7121, 7120.
Offered Spring Semester

7130 - COMMUNITY DENTAL HEALTH 3 credits
A series of lectures and a coordinated field project designed to introduce the student to the dental needs of the community. Students propose, plan and participate in a community dental service project which is designed to assist a community organization with dental health care. Lectures are concerned with dental health education, epideniology, dental public health, fluoridation and dental manpower.
Offered Spring Semester

7131 - PHARMACOLOGY 2 credits
Study of drugs and their effects on living tissues. Emphasis will be placed on the drugs which are utilized in dentistry. Dosage, physical and chemical properties and modes of administration will be considered. PREREQUISITE: 3138, 7120.
Offered Fall Semester

7132 - DENTAL SPECIALTIES 2 credits
Introduction to the principles and practices of the major specialties in dentistry. Orthodontics, Oral Surgery, Endodontics will be among the areas studied.
Offered Fall Semester

7133, 7134 - CLINICAL DENTAL HYGIENE 2 & 3 4/4 cr.
Continued practice in oral prophylaxis techniques and patient education. Completion of supportive service skills such as polishing amalgan restorations, rediographs, nutritional counseling, periodontal charting, etc. are required. In addition to assignments at the college dental hygiene clinic, the student will practice her/his skills in several extra-mural sites in the community. Attendance at weekly seminars required. PREREQUISITE: 7120, 7121.

7136 - DENTAL RADIOLOGY 2 credits
A survey of dental radiology, this course includes the theoretical background of techniques of exposure, processing, recognition of dental structures and principles of radiographic interpretation. Panoramic radiography is introduced.
Offered Fall Semester

7138 - DENTAL HYGIENE PRACTICE MANAGEMENT 2 credits
Lectures and discussions concerning the management of a private dental practice, development and philosophy of preventive plaque control programs, use of office records and importance of ethics and jurisprudence. Emphasis is placed on the role of the dental hygienist in a private practice situation.
Offered Spring Semester

7139 - EXPANDED FUNCTIONS FOR THE DENTAL HYGIENIST 3 credits
This course is designed to provide the student with background information and techniques utilized in providing expanded duties. Emphasis will be on operative dentistry procedures, diagnostic aids, study model preparations, clinical and supportive treatment anesthesia. *Offered Spring Semester*



EMERGENCY MEDICAL TECHNOLOGY

This program is designed for the person who responds to emergency calls to provide immediate care to the critically ill and injured and to transport the patient to a medical facility. It will develop his skill in determining the nature and extent of illness or injury and in establishing priorities for emergency care. It covers such topics as opening and maintaining an airway, cardiac resuscitation, controlling of hemorrhage, treatment of shock, immobilization of fractures, assisting in childbirth, management of mentally disturbed patients, as well as light rescue skills and extrication from entrapment.

State legislation mandates that all ambulance technicians be certified Emergency Medical Technicians. In addition to this preparation for national certification, students are prepared to give industrial emergency care.

Upon successful completion of this program, the degree of Associate in Science in Emergency Medical Technology will be awarded. Students interested in National Certification in EMT, without pursuing the degree requirements, may satisfy the prerequisites for the National Boards by completing the EMT program offered in the Division of Continuing Education.

*Subject to program approval by the M.B.R.C.C. Planned implementation, September, 1979.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Comp. 1			3
3091	Anatomy & Physiology 1			4
7004	Foundations of Health			3
4086	General Psychology			3
7250	E.M.T. 1			3
				16

SEMESTER 2

1008	Technical Report Writing			3
3092	Anatomy & Physiology 2			4
4008	Introduction to Sociology			3
1007	Fundamentals of Speech			3
7251	E.M.T. 2			3
				16

SEMESTER 3

4087	Principles of Normal & Abnormal Behavior			3
3028	Microbiology			4
4009	Social Problems			3
7252	E.M.T. 3			3
7254	Field Work & Studies 1			3
				16

SEMESTER 4

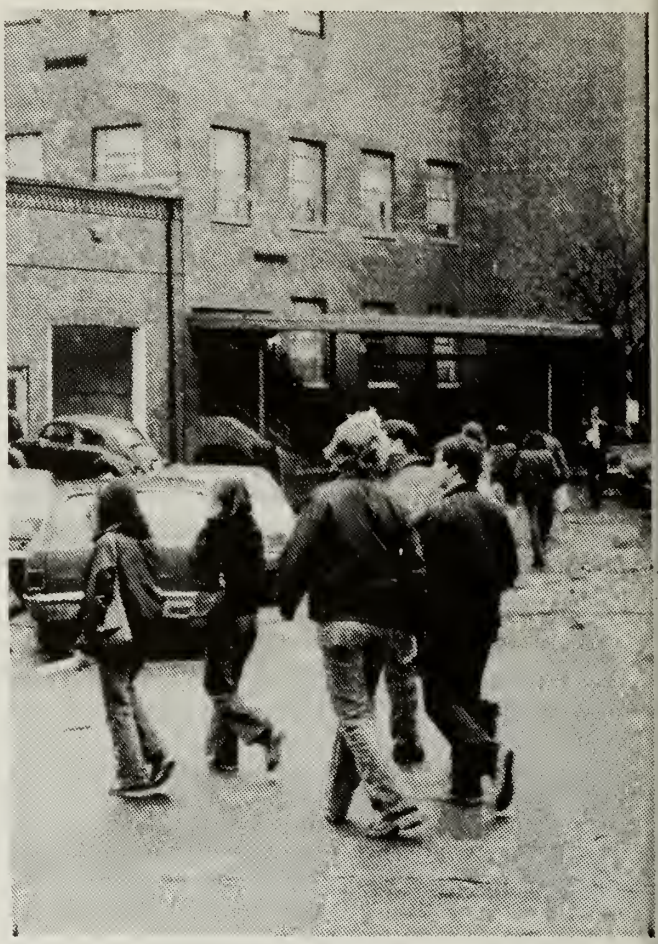
4073	Human Relations at Work			3
7043	Programmed Medical Terminology			3
xxxx	Elective			3
7253	E.M.T. 4			3
7255	Field Work & Studies 2			3
				15

7250 - E.M.T. 1 3 credits

This introductory course will include the role of the emergency medical technician in the health field, legal aspects, topographic anatomy and the interpretation of diagnostic signs and triage. *Offered Fall Semester*

7251 - E.M.T. 2 3 credits

This course evolves around chest injuries including the development of skills to enable the student to control bleeding and shock. Cardiopulmonary resuscitation, oxygen therapy and use of specialized equipment are included in this unit. PREREQUISITE: E.M.T. 1 *Offered Spring Semester*



7252 - E.M.T. 3 3 credits

The emphasis in this course is on fractures, splinting injuries to the skull, brain and abdomen. Medical emergencies and reaction to stress are included. PREREQUISITE: E.M.T. 2. *Offered Fall Semester*

7253 - E.M.T. 4 3 credits

This course is centered around environmental emergencies, patient handling and extraction, record keeping, patient transport, emergency driving, and traffic control. A module of obstetrical, gynecological and pediatric emergencies will be included in this course. *Offered Spring Semester*

7254 - E.M.T. FIELD WORK & STUDIES 1 3 cr.

This course provides access to supervised observation in the clinical area including emergency rooms and third party observation on ambulance runs to further develop skills and techniques of patient handling and transport. The emphasis is on student competency and patient safety. PREREQUISITE: E.M.T. 3 *Offered Fall Semester*

7255 - E.M.T. FIELD WORK & STUDIES 2 3 cr.

A continuation of Field Work and Studies 1. This course provides supervised observation in the specialty areas; i.e. physical therapy with emphasis on sports injuries and obstetrical and pediatric emergencies. *Offered Spring Semester*

MEDICAL ASSISTANT

The two-year program prepares students to meet the rigorous demands of today's practicing physician and his need for a skilled Medical Assistant. The program is jointly accredited by the American Medical Association and the American Association of Medical Assisting. Graduates of the program are eligible to take the national certifying exam.

The curriculum is designed to prepare students to assist the physician in clinical procedures, to perform routine laboratory tests and carry out the administrative duties. A semester of supervised clinical experience in cooperating health agencies is provided during the senior year. Graduates are qualified to accept posisitions in medical offices, hospitals and other community health service agencies.

Applicants must have an academic background in biology and have taken the scholastic aptitude test.

Minimum Grade Requirement: To continue in the progression of courses offered in the Medical Assisting Program, a student must obtain a grade of "C" (73 %) or better in the following courses: 7027 - Medical Assistant Techniques I; 7028 - Medical Assistant Techniques II; 7085 - Medical Assistant Techniques III; and 7080 - Medical Assistant Seminar & Field Work. Upon the successful completion of this program, the degree of Associate in Science in Medical Assisting will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
3077	Human Biology 1	3	2	4
7027	Medical Assistant Techniques 1	2	3	4
5008	Typewriting 1	5		3
5031	Medical Law and Ethics	1		1
7043	Programmed Medical Terminology	3		3
		17	5	18

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	Composition 2: Intro. to Literature	3		3
3078	Human Biology 2	3	2	4
5012	Medical Typewriting	2	3	3
7028	Medical Assistant Techniques 2	2	3	4
5191	Medical Office Acc't. & Mangt.	3		3
		13	8	17

SEMESTER 3

No.	Course Title	Class	Lab	Credits
4086	General Psychology	3		3
5014	Medical Office Practice 1	3		3
7085	Medical Assistant Techniques 3	3		3
	Elective	3		3
		12		12

SEMESTER 4

No.	Course Title	Class	Lab	Credits
1006	Business English	3		3
5129	Medical Machine Transcription	1		1
7080	M.A. Seminar & Field Work	2	14	9
xxxx	Elective	3		3
		9	14	16

5031 - MEDICAL LAW AND ETHICS 1 credit

The application of law in real work situations encountered by medical personnel. Responsibilities and liabilities of health providers are balanced against the rights and expectations of patients. Traditional ethical questions are explored together with those arising coincident with changing medical practices and public attitudes. *Offered Fall Semester*

7027 - MEDICAL ASSISTANT TECHNIQUES 1 4 credits

Presents theory and planned student activity in assisting with physical exam, medical asepsis, selected diagnostic tests, prepare the equipment and assist with minor surgery and wound dressing as well as a basic understanding in nutrition.

Offered Fall Semester.

7028 - MEDICAL ASSISTANT TECHNIQUES 2 4 credits

Continuation of advanced theory. Selected laboratory procedures will include electrocardiogram, cardiopulmonary resuscitation, first aid procedures and a general understanding of medications. PREREQUISITE: 7027.

Offered Spring Semester

7043 - PROGRAMMED MEDICAL TERMINOLOGY 3 credits

This course is designed to be used on an individually paced basis, emphasizing the most commonly used combining forms, prefixes and suffixes that make up the language of medicine. The text will be supplemented with audio cassettes. A working knowledge of medical terminology is desirable for anyone entering one of the Allied Health occupations or related fields where precise use of medical terms are required.

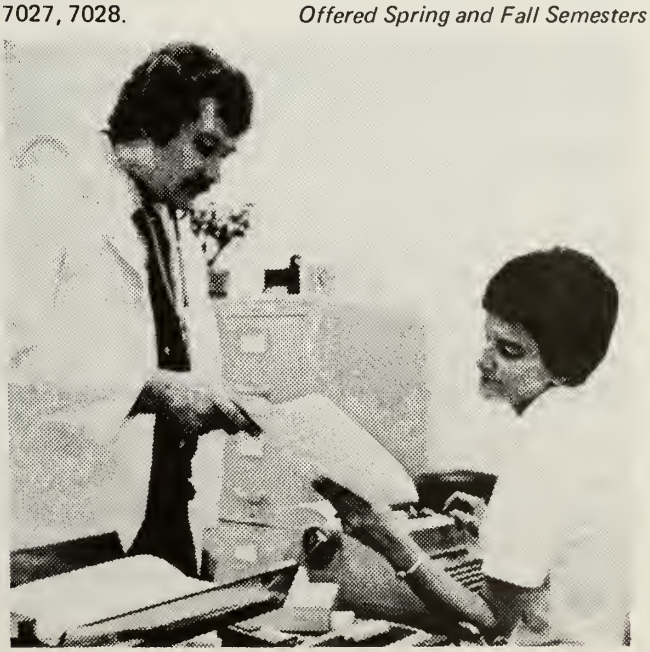
Offered Spring and Fall Semesters

7080 - MEDICAL ASSISTANT SEMINAR & FIELD WORK 9 credits

General introduction to hospitals and health-care agencies provides students with additional experience in applying cognitive learning to practical applications. PREREQUISITES: 7027, 7028. *Offered Spring and Fall Semesters*

7085 - MEDICAL ASSISTANT TECHNIQUES 3 3 credits

This course is designed to increase the level of knowledge in select areas of concentration. Terminology skills will be further developed and the student will become aware of the implication of illness in life cycles. Discussion will focus on application of concepts to clinical areas. PREREQUISITES: 7027, 7028. *Offered Spring and Fall Semesters*



MEDICAL LABORATORY TECHNICIAN

This program offers an integrated curriculum which provides the student with a background in general education and the basic skills necessary to function in a clinical laboratory. Fundamentals in clinical microscopy, microbiology, hematology, immunohematology and clinical chemistry comprise the core curriculum which terminates in a twenty-week hospital affiliation. Presently the affiliation period extends from April through August of the senior year.

Applicants must have completed a college preparatory course in high school which included biology, chemistry, and mathematics. SAT scores must be 400 or greater in mathematics and verbal skills with a total score of 800 or higher. Graduates of the program are eligible to take the national registry examination for medical laboratory technicians sponsored by the American Society of Clinical Pathologists.

The program is designed to enable students to continue at a baccalaureate level in a four-year institution should they so desire.

Minimum Grade Requirement: The minimum passing grade for the required courses in the Medical Laboratory Technician Program is "C." Upon the successful completion of this program, the degree of Associate in Science in Medical Laboratory Technician will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
3109	General Chemistry 101	3	3	4
3080	Biology 1	3	3	4
7031	Intro. to Clinical Lab 1	3		3
xxxx	Elective in H. & S.S.	3		3
		15	6	17

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	English Comp. 2	3		3
3110	Gen. Chem. 102	3	3	4
3081	Biology 2	3	3	4
7070	Microbiology	3	4	5
xxxx	Elective in H. & S.S.	3		3
		15	10	19

SEMESTER 3

No.	Course Title	Class	Lab	Credits
2015	Statistics and Quality Control	3		3
7032	Hematology and Coagulation	3	4	5
7033	Clinical Chemistry	3	4	5
3138	Biochemistry for Health Sciences	3		3
xxxx	Elective in H. & S.S.	3		3
		15	8	19

SEMESTER 4

No.	Course Title	Class	Lab	Credits
7034	Immunohematology	3	3	4
5031	Medical Law and Ethics	1		1
7035	Clinical Lab Practicum			12
3127	Instrumental Analysis			4
7069	Clinical Lab 2	2	2	3
7071	Parasitology	3	2	4
		10	7	28

7031 - INTRODUCTION TO THE CLINICAL LAB. 1 3 credits

The nature and scope of clinical laboratory work is explored. Proper use and care of laboratory equipment is explained. Laboratory mathematics, preparation of laboratory solutions are taught. The principles of immunity are studied.

Offered Fall Semester

7032 - HEMATOLOGY AND COAGULATION 5 credits

The hemopoetic system, the origin and development of human blood cells, their function; normal and abnormal findings are the basis for this course. Coagulation factors and their role in health and disease are studied. PREREQUISITE: 7031.

Offered Fall Semester

7033 - CLINICAL CHEMISTRY 5 credits

Designed to acquaint the student with the principles of gravimetric, volumetric and colormetric analyses as applied to blood and other body fluids, this course stresses manual methods. Quantitative analyses are determined spectrophotometrically. Preparation of solutions and calibration of instruments are included. Students are introduced to automative equipment through audio-visual aids. PREREQUISITE: 7031. *Offered Fall Semester*

7034 - IMMUNOHEMATOLOGY 4 credits

Immunohematology provides the student with a background in the principles involved in preparing blood for transfusion purposes; the ABO system and Rh factors are studied. Compatibility testing is also taught. Hemolytic disease of the newborn and the identification of antibodies are included. PREREQUISITE: 7032. *Offered Spring Semester*

7035 - CLINICAL LAB PRACTICUM 12 credits

Supervised clinical experience is assigned in an affiliated hospital laboratory under the supervision of a medical technologist (ASCP) and pathologist. The rotation schedule provides experience in the following departments: Blood Bank, Chemistry, Hematology, Microbiology, Serology, and Urinalysis. (Includes summer session)

7069 - CLINICAL LAB 2 3 credits

This course will be a continuation of course no. 7031 with emphasis on urinalysis and common serological procedures. PREREQUISITE: 7031. *Offered Spring Semester*

7070 - INTRODUCTION TO MEDICAL MICROBIOLOGY 5 credits

The study and identification of organisms commonly found in infectious diseases is studied, including bacteria and fungi. Sensitivity testing as an aid to chemotherapy is included. PREREQUISITE: 7031. *Offered Spring Semester*

7071 - PARASITOLOGY 4 credits

In this course the student will learn the life cycles and identification of parasites of man. Students will study prepared slides and process specimens for the detection of parasites. PREREQUISITES: 7031. *Offered Spring Semester*

1080* - PRACTICAL MEDICAL SPANISH 3 credits

This is an interdisciplinary course. It teaches skills needed in the health and human service fields to establish oral communication with monolingual Spanish-speaking individuals. Students become acquainted with basic medical terminology and phrases needed in helping Spanish-speaking patients/clients. Class participation in Spanish is encouraged from the beginning. Cultural differences and similarities between USA and Latin America are also emphasized.

*This course is not reflected in the course curriculum. See Department Chairperson.

NUCLEAR MEDICAL TECHNICIAN

The Nuclear Medical Technician is a valuable member of a fast-growing discipline involving radiation. Using a variety of radioactive substances having very short lives, he produces a picture of the particular organ under investigation using a gamma camera or scanner. The picture may be on x-ray film or a Polaroid print. By means of these techniques, virtually every organ can be demonstrated without any discomfort to the patient. Using radioactive substances he can, also, assess small amounts of medication present in the blood.

The student is prepared for this vocation in a two-year program at the end of which the successful student will have earned his Associate in Science Degree and will be eligible to take his National Boards Examination.

Half of each day is spent at the College, the other half at Bay State Medical Center in performing diagnostic procedures on patients under close supervision.

Minimum Grade Requirement: A student is required to obtain a "C" *(73%) or better in each of the following courses: 3037 - Nuclear Physics 1; 3083 - Radiologic Physics 1; 3091 - Anatomy & Physiology 1; 3092 - Anatomy & Physiology 2; 7156 - Nuclear Medicine Technology 1; 7157 - Nuclear Medicine Technology 2; 7159 - Nuclear Medicine Technology 3; and 7160 - Nuclear Medicine Technology 4. Applications must be submitted by February 15; the course begins in July. Upon the successful completion of this program, the degree of Associate in Science in Nuclear Medicine Technology will be awarded.

SUMMER SPECIAL

No.	Course Title	Class	Lab	Credits
5037	Medical Terminology	2		2

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
2084	Mathematics of Radiology	3		3
3091	Anatomy & Physiology 1	3	3	4
3109	Chemistry 101	3	3	4
7156	Nuclear Medical Technology 1	3	3	4
6350	Practicum			2
		15	9	20

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	Composition 2: Intro. to Literature	3		3
3110	Chemistry 102	3	3	4
3092	Anatomy & Physiology 2	3	3	4
7157	Nuclear Medical Technology 2	3	3	4
6351	Practicum			2
		12	9	17

SUMMER SPECIAL

Practicum

SEMESTER 3

No.	Course Title	Class	Lab	Credits
3083	Radiologic Physics 1	3	3	4
4086	General Psychology	3		3
7159	Nuclear Medical Technology 3	3	3	4
6352	Practicum			4
		9	6	15

SEMESTER 4

No.	Course Title	Class	Lab	Credits
5031	Medical Law & Ethics	1		1
3037	Nuclear Physics 1	3	3	4
7160	Nuclear Medicine Technology 4	3	3	4
6353	Practicum			4
4014	Economics 1	3		3
		10	6	16

2084 - MATHEMATICS OF RADIOLOGY 3 credits

This is a review and presentation of the math necessary for the intelligent and versatile use of x-ray equipment. It is also the basis of the math needed for nuclear medicine and radiation therapy and is also taken by these students.

Offered Fall Semester

3037 - NUCLEAR PHYSICS 1 4 credits

Fundamentals of Radiation Physics including the atomic structure of both stable and radioactive nuclei. Alpha, beta and gamma radiation are thoroughly discussed and examples applicable to their uses in a nuclear medicine laboratory are given. *Offered Spring Semester*

3083 - RADIOLOGIC PHYSICS 1 4 credits

Restricted to Departments 77, 78, 79. Topics covered are: basic mechanics, mass, force, energy, work, momentum. Electrostatics, magnetism, electromagnetism, basic electronics, solid state will be discussed with applications in radiology. Specific topics in radiology are the nature of the photon, electromagnetic spectrum, ionizing radiation, and radiation detection equipment. *Offered Fall Semester*

N.B. In addition there is a three-week (15 hour) lecture series in the June preceding this course. The course is Radiation Protection in Radiology covering radiation dose, radiation protection, inverse square law, basic radiobiology. At the terminus of the series there will be an hour exam, which mark will be included in the Fall Physics 3083/3583 mark. This course must be passed to continue in the summer clinical program.

3091 - ANATOMY AND PHYSIOLOGY 1 4 credits

A comprehensive study of the structure and function of the human body, emphasizing the normal, which will serve as a background for the application of scientific principles both in everyday living and in the work of the various health disciplines. Laboratory practice includes the study of tissues by using microscopic examinations and the dissection of animal specimens, along with physiological experimentation. Units covered are concerned with general introductory material, the skeleton, muscles and nervous system. PREREQUISITES: Biology and Chemistry.

3092 - ANATOMY AND PHYSIOLOGY 2 4 credits

A continuation of Anatomy and Physiology 1 concentrating on body metabolism, reproduction and endocrime control. Laboratory sessions are included. Emphasis is placed on association, correlation, critical thinking and overview of the body as a whole. PREREQUISITE: 3091 - Anatomy and Physiology 1.

5031 - MEDICAL LAW AND ETHICS 1 credit

The application of law in real world situations encountered by medical personnel. Responsibilities and liabilities of health providers are balanced against the rights and expectations of patients. Traditional ethical questions are explored together

with those arising coincident with changing medical practices and public attitudes.

5037 - MEDICAL TERMINOLOGY 2 credits
The student learns the medical terms used in pathology and radiology.

7156 - NUCLEAR MEDICINE 1 4 credits
Basic concepts of instrument function are covered. This includes such topics as: the calibration of survey meters, Geiger-Mueller Tubes, discriminators and spectrometers.
Offered Fall Semester

7157 - NUCLEAR MEDICINE 2 4 credits
Continuation of Nuclear Medicine 1 including topics concerning the determination of equipment parameters, geometry considerations, gray scale determination and collimation devices. Basic principles of radiation protection including AEC guidelines, shielding concepts and safe handling principles are covered. *Offered Spring Semester*

7159 - NUCLEAR MEDICINE 3 4 credits
Continuation of Nuclear Medicine 2. Topics discussed include glass techniques, plastics, balances, centrifuges, preparation of standards, preparation of doses, assay of generator products and radioactive waste disposal. Basic principles of radiochemistry are also covered. *Offered Fall Semester*

7160 - NUCLEAR MEDICINE 4 4 credits
Continuation of Nuclear Medicine 3. Topics discussed include radio immunoassay and other dilution studies, gastro-intestinal uptake and absorption studies. Also discussed will be the use of computers in Nuclear Medicine, radio-nuclide therapy, auto-radiography and the decontamination process for radio isotope laboratories. *Offered Spring Semester*

1080* - PRACTICAL MEDICAL SPANISH 3 credits
This is an interdisciplinary course. It teaches skills needed in the health and human service fields to establish oral communication with monolingual Spanish-speaking individuals. Students become acquainted with basic medical terminology and phrases needed in helping Spanish-speaking patients/clients. Class participation in Spanish is encouraged from the beginning. Cultural differences and similarities between USA and Latin America are also emphasized.

*This course is not reflected in the course curriculum. See Department Chairperson.



NURSING

The nursing curriculum is planned to prepare young men and women to be professional nurses who will be competent to render safe and effective nursing care to people within the normal life cycle, both in health and illness. The community-centered approach combines both liberal and technical education for the student within the college and community health facilities.

The student who successfully completes the prescribed curriculum earns the degree of Associate of Science and is eligible to take the licensing examination to qualify as a Registered Nurse. The program is approved by the Massachusetts Board of Registration in Nursing. It also has full accreditation by the National League for Nursing.

Prerequisites for admission to the Nursing Program call for the applicant to be a high school graduate or equivalent. The candidate also must have completed courses in Algebra 2, Geometry, Chemistry and Biology. The SAT's are required for admission with minimum score of 450 on both the verbal and math portions of the test.

Minimum Grade Requirement: Students must achieve a minimum grade average of 75% or a cumulative point average of 2.15 in each nursing course. In addition, students must attain at least a C in related science courses or a cumulative grade point average of 2.0. Upon the successful completion of this program, the degree of Associate in Science in Nursing will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
4086	General Psychology	3		3
3091	Anatomy & Physiology 1	3	3	4
7072	Nursing 1	4	10	7
		10	13	14

SEMESTER 2

No.	Course Title	Class	Lab	Credits
4087	Normal/Abnormal Psychology	3		3
1004	English Composition 1	3		3
3092	Anatomy & Physiology 2	3	3	4
7073	Nursing 2	4	10	7
		13	13	17

SEMESTER 3

No.	Course Title	Class	Lab	Credits
3028	Microbiology	3	3	4
4008	Introduction to Sociology 1	3		3
7074	Nursing 3	4	15	9
		10	18	16

SEMESTER 4

No.	Course Title	Class	Lab	Credits
xxxx	Social Science Elective	3		3
xxxx	Humanities Elective (English)	3		3
7077	Nursing 5	2		2
7075	Nursing 4	4	15	9
7076		12	15	17

7072 - NURSING 1 7 credits

Nursing 1 is an introduction to contemporary nursing. The conceptual framework utilized is the pursuit of wholeness through the nursing process. Using principles drawn from the behavioral and biological sciences, the student is guided in developing the ability to use this systematic method for assessment of needs, identification of problems, setting of goals and objectives, implementing and evaluating nursing care. The modular approach is used to help the student gain knowledge and understanding of the life cycle, the nursing process, nursing issues, health needs, basic nutrition and pharmacology.

Integrated with the theoretical content is planned simulated laboratory practice and experience in health facilities which permits the opportunity to apply scientific principles and develop skill in meeting patient needs. *Offered Fall Semester*

7073 - NURSING 2 7 credits

With the knowledge of basic concepts and skills in nursing derived from Nursing 1, the student is provided with opportunities to develop the nursing process. Under supervision, he/she implements and evaluates nursing care to meet assessed needs and identified problems of selected children and adults. Community health facilities are utilized to give the student the opportunity to plan and deliver care to persons of various life styles and economic standards, who are experiencing various degrees of homeostatic imbalance.

Offered Spring Semester

7074 - NURSING 3 9 credits

A continuation of Nursing 2, in which the student is more independent in using the nursing process to coordinate care for persons with more complex health problems.

Offered Fall Semester

7075/7076 NURSING 4 9 credits

7075 - NURSING THE DEVELOPING FAMILY 4.5 credits

Nursing the Developing Family is concerned with the maternity cycle and with people involved in the family unit from conception of the child through the neonatal period. The developmental approach is used to assist the student assimulate knowledge as it deals with maintaining health and coping with the stresses of pregnancy and birth.

The student of nursing will refine nursing process skills through the care of assigned families in community health facilities. *Offered Spring Semester*

7076 - COMMUNITY MENTAL HEALTH NURSING4.5 credits

Through the exposure to Community Mental Health Agencies, the student of nursing will be offered opportunities to develop psychiatric nursing skills practiced in previous nursing courses. Interpersonal skills will be refined through relationships with patients, health team members and in group process. Community resources will be selected in order to expose the student to leaders in community mental health and media which will broaden their field of knowledge in this discipline.

Offered Spring Semester

7077 - NURSING 5 2 credits

Nursing process is utilized to assist students to identify their needs and problems in the transitional role from student to graduate. Basic legal concepts form the cognitive frameword for the discussion of current issues in nursing. Humanistic and group processes are used to identify the relevant issues.

Offered Spring Semester

ASSOCIATE DEGREE IN NURSING FOR REG. NURSES

Springfield Technical Community College's Division of Continuing Education offers a Program of Studies designed for Registered Nurses. Successful completion of the requirements for this program leads to an Associate in Science in Nursing degree for Registered Nurses.

In order to be eligible to file for acceptance into this program, the applicant must be:

1. A graduate of an approved School of Nursing:
2. Currently licensed as a Registered Nurse in the Commonwealth.
3. Recommended by his/her current employer or Director, School of Nursing.

Curriculum requirements are as follows:

1. Thirty (30) credits to be awarded (irrespective of, but including academic credits earned in a diploma program) to a person currently registered as a nurse in the Commonwealth of Massachusetts.
2. Twenty-one (21) credits are to be earned in the area of liberal arts. Credits may be contracted with the College.

English	6 credits
Sociology	6 credits
Psychology	6 credits
Electives	3 credits

3. Twelve (12) credits are to earned in the area of Continuing Education in Nursing. Choice of courses are subject to contract with the College.
4. A minimum of fifteen (15) credits must be earned at STCC. Students may challenge or transfer up to eighteen (18) credits toward this degree.
5. All records are subject to evaluation by the Division of Continuing Education and College Registrar.

The General Education Components of this curriculum are offered in all sessions of the Division of Continuing Education. Upon the successful completion of this program the degree of Associate in Science in Nursing will be awarded.

CE 7090 - PRINCIPLES OF NURSING LEADERSHIP 3 credits

A humanistic approach to the philosophy and principles of team nursing highlighting leadership and management skills. Emphasis is placed on the concept of self-understanding, in order to understand the needs of others in contemporary society both as members of the nursing team and/or recipients of the delivery of health-care services.

CE 7092 - NURSING PROCESS 3 credits

This course offers a systematic approach to the nursing process. Validation, implementation, evaluation are focused upon as approaches to attempt to meet individual needs in the delivery of nursing care; instructional media supplements lectures and laboratory presentations.

CE 7093 - PRINCIPLES OF OPERATING ROOM NURSING 3 credits

This course is designed to orient the student to the operating room environment, adding insight to each experience and its rationale. A primary aim of this course is to develop an understanding and knowledge of the principles of aseptic technique and application in varying measures to nursing experiences.

CE 7351 - INTERPERSONAL RELATIONSHIPS IN NURSING 3 credits

The nurse-patient relationship based on awareness of self is the core of this course. Therapeutic nursing intervention primarily consists of an understanding of the psychosocial needs of the



human person and the modification of these needs which occur in the wellness-illness continuum extending ultimately to death. Topics of discussion will include: the concept of person, dynamics of behavior, anxiety, depression, the dying process and communication theory.

CE 7352 - HUMAN SEXUALITY IN NURSING 3 credits

The course focuses on human sexuality and its relationship to all fields of nursing from the biological, psychological, socio-cultural and philosophical points of view. It encompasses discussion of interpersonal relationships, healthy sexual attitudes and behavior, sexual identity, response and responsibility, pre-marital sex and marriage in our culture.

CE 7355 - DEATH AND DYING 3 credits

Exploration and discussion of theological, philosophical, anthrological, sociological and medical concepts and theories relative to the dying process. Enables the Registered Nurse to explore her own feelings on death and dying. The aim of the course is to help the Registered Nurse to develop a personal philosophy and set of ethical beliefs about such concepts as life, death, illness, hope, despair and suffering.

CE 7358 - MODERN PSYCHIATRY FOR NURSES 3 credits

This course will consist of lectures, clinical interviews and seminars relating to the categories of mental illness, evaluated from the perspectives of diagnosis, genetics, psychology, biochemistry and psychopharmacology.

CE 7356 - PSYCHOSOCIAL ISSUES IN NURSING CARE 3 credits

This seminar is designed to help professional nurses integrate their experiences in nursing with current psychosocial topics affecting patient care. PREREQUISITE: Registered Nurses only.

CE 7359 - NURSING CARE OF THE AGING PATIENT 3 credits

An in-depth study of cultural, psychosocial, and physical aspects of the aging process will be applied to nursing assessment, planning, intervention and evaluation of the elderly patient. PREREQUISITE: Registered Nurses only.

CE before a course number indicates: Continuing Education (offered currently only in the Evening Division).

OCCUPATIONAL THERAPY TECHNOLOGY

The program for occupational therapy assistants by design will prepare students to assist professional occupational therapists in Health Service agencies; i.e. hospitals, multi-level nursing homes, and community based rehabilitation centers. The program will provide students with the opportunity to acquire skills specific for Occupational Therapy and related areas such as general activities programs, supportive or long term care programs and specific therapeutic techniques to correct or modify pathologic conditions.

Upon the successful completion of the program, the degree of Associate in Science in Occupational Therapy Technology will be awarded.

*Subject to program approval of the M.B.R.C.C. Planned implementation, September, 1979.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Composition 1			3
3091	Anatomy & Physiology			4
7002	Foundations of Health			3
4086	General Psychology			3
7270	Occupational Therapy Assist. 1			3
				16

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	English Composition 2			3
3092	Anatomy & Physiology 2			4
7043	Medical Terminology			3
4073	Human Relations at Work			3
7271	Occupational Therapy Assist. 2			3

SEMESTER 3

No.	Course Title	Class	Lab	Credits
7003	Medical Lecturas			3
xxxx	Programmed Math			3
7006	Kinasiology			3
4085	Child & Developmental Psychology			3
7272	Occupational Therapy Assist. 3			3
				15

SEMESTER 4

No.	Course Title	Class	Lab	Credits
7274	Neuro Pathology			3
4009	Social Problems			3
7273	Field Work & Studies			6
4087	Principles of Normal/Abnormal Psych.			3
				15

7270 - OCCUPATIONAL THERAPY ASSISTANT 1 3 cr.
This course leads to an understanding of Occupational Therapy as a profession and how it relates to other health services. The student will begin to develop techniques needed to execute his/her responsibilities of the occupational therapy assistant. Student will have the opportunity to work with a variety of craft media and techniques.

Offered Fall Semester

7271 - OCCUPATIONAL THERAPY ASSISTANT 2 3 cr.
Upon completion of this course, the student should be able to participate or assist in the initial screening of patients, the evaluation of patient needs related to occupational performance and the collection of data related to client environment. PREREQUISITE: Occupational Therapy 1.

Offered Spring Semester

7272 - OCCUPATIONAL THERAPY ASSISTANT 3 3 credits
Emphasis in this course is on the restoration or development of occupational performance, program implementation, activity analysis and the administrative and supervising tasks necessary for effective utilization of community resources. PREREQUISITE: Occupational Therapy 2.

Offered Fall Semester

7273 - O. T. FIELD WORK & STUDIES 6 credits
This course will provide the students an opportunity to further develop their ability in the practice of occupational therapy and to evaluate their competency to the practice. Field experience in area hospitals and agencies will offer practical experience with psychiatric patients as well as patients with physical disabilities. *Offered Spring Semester*

7274 - NEURO PATHOLOGY 3 credits
This course is a specialized series of lectures geared to the specific neurological dysfunction of the patient. Events or activities leading to overcoming this disability are stressed.



OPERATING ROOM TECHNICIAN

The objective of the Operating Room Technician program is to prepare men and women to function as a member of a surgical team, or as an assistant to the surgeon, anesthesiologist, or professional nurse in the operating room. The program combines theory and practice of surgical asepsis in the operating room, delivery room, emergency room and central service department. It is designed to develop knowledge and skill in maintaining aseptic techniques within the hospital area. Degree requirements include successful completion of one-year course work, followed with another year of course work at the College, combined with clinical training.

Students must maintain a minimum 2.0 Q.P.A. in the freshman year to be eligible for clinical training during the second year of the program.

Applicants must have an academic background in biology, chemistry and mathematics.

Graduates of this program are eligible for the A.O.R.T. Certifying Examination approved by the A.O.R.T. Advisory Board composed of representatives from the Association of Operating Room Technicians, Inc., Association of Operating Room Nurses, Inc., American Hospital Association and American College of Surgeons.

Minimum Grade Requirement: The Operating Room Technician student is required to earn a minimum grade of "C" (73) in each of the following courses: 7007 - Foundations of ORT 1; 7008 - O.R.T. 2; 7053 - O.R.T. 3; 7054 - O.R.T. 4; 7063 - Field Work & Studies 1; and 7064 - Field Work & Studies 2. Upon the successful completion of this program,the degree of Associate in Science in Operating Room Technology will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Comp. 1	3		3
3091	Anatomy & Physiology 1	3	2	4
3002	Chemistry 1	3	3	4
4086	General Psychology	3		3
7007	Foundations of ORT 1	3	2	4
		15	7	18

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	English Comp. 2	3		3
3092	Anatomy & Physiology 2	3	2	4
3028	Microbiology	3	2	4
7008	ORT 2	3	2	4
7002	Foundations of Health	3		3
		15	6	18

SEMESTER 3

No.	Course Title	Class	Lab	Credits
7165	Pharmacology/ORT	3		3
7063	Field Work & Studies		18	6
7053	ORT 3	4		4
5031	Medical Law and Ethics	1		1
		8	18	14

SEMESTER 4

No.	Course Title	Class	Lab	Credits
7049	Seminar - Surgical/ORT	3		3
7064	Field Work & Studies		18	6
7054	ORT 4	4		4
xxxx	Elective	3		3
		10	18	16

7007 - FOUNDATIONS OF ORT 1 4 credits

A combined lecture and laboratory course which develops competency in the performance of certain generally accepted routine procedures and techniques. Units in this course include: Related Nursing Procedures, Medical Terminology, Human Relations and First Aid. *Offered Fall Semester*

7008 - O.R.T. 2 4 credits

A continuation of 7007. This course is a combined lecture and laboratory course in which the student will learn aseptic technique, instrumentation, draping techniques, positioning, etc. in preparing for their field experience. PREREQUISITE: 7007. *Offered Spring Semester*

7053 - O.R.T. 3 4 credits

A general course presenting material in a sequence that will coincide with the practical experience of the technician in the operating toom, delivery room and emergency room. PREREQUISITES: 7007, 7008. *Offered Fall Semester*

7054 - O.R.T. 4 4 credits

This course provides theoretical and technical background to prepare an operating-room circulator technician. Advanced operating room techniques, supervisory skills, interpersonal relationships, circulation duties, procedure analysis and ethics are included. PREREQUISITES: 7007, 7008, 7053. *Offered Spring Semester.*

7165 - PHARMACOLOGY/ORT 3 credits

This course provides a background in the drugs used in the operating room, emergency room and delivery room. Handling, preparation, dosage, contra-indication and toxic effects are stressed. PREREQUISITES: 7007, 7008. *Offered Fall Semester*

7049 - SEMINAR-SURGICAL/ORT 3 credits

This course provides the total picture of the operating room patient in the surgery. Guest lecturers will elaborate on specialties involving surgical procedures as they relate to patient care. A review and discussion of the students field experiences are an integral part of this course offering. A modular unit in Bio-Medical Instrumentation is included in this course. PREREQUISITES: 7007, 7008, 7053. *Offered Spring Semester*

7063 - FIELD WORK & STUDIES (CLIN. EXP.) 6 credits

Opportunity for the student to observe and to assist the surgeon and other members of the surgical team in the operating room and delivery room, under the direct supervision of Registered Professional Nurses. Students will be scheduled for clinical affiliation upon completion of Semester 1 and 2 requisites. *Offered Fall Semester*

7064 - FIELD WORK & STUDIES (CLIN. EXP.) 6 credits

A rotating clinical experience through surgical specialities dealing with; plastic surgery, opthalmic surgery, neurosurgery, orthopedic surgery, urological surgery, vascular and chest surgery. PREREQUISITE: 7063. *Offered Spring Semester*

7002 - FOUNDATIONS OF HEALTH 3 credits

This is a survey course aimed to develop a personal awareness and understanding of basic health concepts and their application in every-day living. Emphasis is placed on attitudinal changes by raising the level of concern through discussions of health facts and current controversial issues. Course content is developed from broad base readings in news media, periodicals, and handout materials, as well as textbook assignments. Wide use is made of audiovisual materials and community resources. A modular unit in Cardio Pulmonary Resuscitation leading to certifications is included in this course.

PHYSICAL THERAPIST ASSISTANT

The objective of this program is to prepare men and women for employment in the physical therapy field. The graduate physical therapist assistant works under the direction and supervision of a registered physical therapist performing patient-related activities and other tasks required for the operation of the service.

The two-year curriculum leading to an Associate Degree follows the guidelines adopted by the American Physical Therapy Association. The curriculum is designed to develop technical knowledge and skills and background information for understanding in anatomy, physiology, kinesiology, disease processes, psychological and interpersonal relations. In addition, emphasis is placed on ethical and legal aspects. Approximately one semester of the program is supervised practice in selected clinical settings.

Minimum Grade Requirement: The Physical Therapist Assistant student must obtain a minimum grade of "C" (73%) in each of the following courses: 7003-Medical Lectures. 7006 - Kinesiology; 7037 - Physical Therapist Assisting 1; 7038 - Physical Therapist Assisting 2; 7039 - Physical Therapist Assisting 3; 7040 - Supervised Clinical Experience; 7041 - Supervised Clinical Experience; and 7042 - Physical Therapist Assistant Seminar and 3091-91 — Anatomy & Physiology.

In addition to the above requirement, the student must have earned a minimum of 61 credits with a cumulative quality point average of 2.0 in order to be eligible for graduation. Upon the successful completion of this program, the degree of Associate in Science in Physical Therapist Assisting will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
4086	General Psychology	3		3
3091	Anatomy & Physiology 1	3	2	4
4008	Introduction to Sociology 1	3		3
7037	Physical Therapist Assisting 1	2	3	3
		14	5	16

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	Composition 2: Intro. to Lit.	3		3
3092	Anatomy & Physiology 2	3	2	4
	Elective	3		3
7006	Kinesiology	2	2	3
7038	Physical Therapist Assisting 2	2	3	3
		13	7	16

SEMESTER 3

No.	Course Title	Class	Lab	Credits
	Elective	2		2
7003	Medical Lectures	3		3
	Elective	3		3
7039	Physical Therapist Assisting 3	2	3	3
5031	Medical Law and Ethics	1		1
4092	Human Adj. Personal Effect.	3		3
		14	3	15

SEMESTER 4

No.	Course Title	Class	Lab	Credits
7042	Physical Therapist Assistant Seminar	2		2
7040	Supervised Clinical Experience		18	6
7041	Supervised Clinical Experience		18	6
		2	36	14

7003 - MEDICAL LECTURES 3 credits

This course presents the tissue changes resulting from trauma, disease, tumors, and degenerative processes. A series of lectures acquaint the student with the orthopedic, neurological, and general medical conditions he/she will encounter in treating the patient. PREREQUISITES: Anatomy and Physiology 1 and 2 (3091, 3092).

Offered Fall Semester

7006 - KINESIOLOGY 3 credits

This course is designed to develop an understanding of the dynamics of human motion through the study of muscles and joints. PREREQUISITE: Anatomy and Physiology 1 (3091).

Offered Spring Semester

7037 - PHYSICAL THERAPIST ASSISTING 1 3 credits

This course provides a survey of Physical Therapy and its relation to the medical environment. Emphasis is placed on the relationship of the assistant to the registered professional Physical Therapist. Body mechanics, selected basic nursing skills, and first aid are included. Field trips for orientation and observation will be planned. *Offered Fall Semester*

7038 - PHYSICAL THERAPIST ASSISTING 2 3 credits

This course provides lecture and laboratory work in hydrotherapy, electrotherapy, massage and the study of their physiological effects. Principles of bronchial drainage are included. PREREQUISITE: Physical Therapist Assisting Techniques 1. *Offered Spring Semester*

7039 - PHYSICAL THERAPIST ASSISTING 3 3 credits

The student studies mechanical and physiological concepts of exercise programs with emphasis on the problems related to the patient's motor involvement. Laboratory experience is provided to develop the skill of the student in application of various assistive devices. PREREQUISITE: Kinesiology (7006). *Offered Fall Semester*

7040, 7041 - SUPERVISED CLINICAL EXPERIENCE

6 credits each

Supervised practice in selected clinical settings. PREREQUISITES: Physical Therapist Assisting Techniques 1, 2 and 3 (7037, 7038, and 7039). *Offered Spring Semester*

7042 - PHYSICAL THERAPIST ASSISTANT SEMINAR

2 credits

The purpose of these seminars is to correlate the academic and technical courses with the practical clinical work. They are alternately scheduled with the affiliation assignments so that students may return to the classroom for sharing and discussion. *Offered Spring Semester*

1080* - PRACTICAL MEDICAL SPANISH 3 credits

This is an interdisciplinary course. It teaches skills needed in the health and human service fields to establish oral communication with monolingual Spanish-speaking individuals. Students become acquainted with basic medical terminology and phrases needed in helping Spanish-speaking patients/clients. Class participation in Spanish is encouraged from the beginning. Cultural differences and similarities between USA and Latin America are also emphasized.

*This course is not reflected in the course curriculum. See Department Chairperson.

RADIATION THERAPY

This program prepares the student to treat disease with ionizing radiation produced by linear accelerators, cobalt 60, conventional high voltage machines, superficial therapy machines and radium. The student learns how to plan treatments to ascertain the treatment areas using portal films and to use the computer to aid in the planning.

A half of each day is spent at the college, the other half at Bay State Medical Center giving treatments under supervision. At the successful completion of the program the student will have earned his Associate Degree in Science in Radiation Therapy and will be eligible to take his National Boards Examination. Applications must be submitted by February 15 ; course begins in July.

Minimum Grade Requirement: Students in Radiation Therapy are required to obtain a "C" (73%) as a final grade each semester in the following courses: 7151-Radiation Therapy Technology 1; 7152-Radiation Therapy Technology 2; 7154-Radiation Therapy Technology 3; 7155-Radiation Therapy Technology 4; 3035-Radiation Physics 1; 3036-Radiation Physics 2; 3091-Anatomy & Physiology 1; and 3092-Anatomy & Physiology 2. Upon the successful completion of this program, the degree of Associate in Science in Radiation Therapy Technology will be awarded.

SUMMER SPECIAL

5037	Medical Terminology	2		2

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
2084	Mathematics of Radiology	3		3
3091	Anatomy & Physiology 1	3	3	4
7151	Radiation Therapy Technology 1	3	3	4
6350	Practicum			2
		12	6	16

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	Composition 2: Intro. to Lit.	3		3
3092	Anatomy & Physiology 2	3	3	4
7152	Radiation Therapy Tech. 2	3	3	4
6351	Practicum			2
		9	6	13

SUMMER SPECIAL

	Practicum			

SEMESTER 3

No.	Course Title	Class	Lab	Credits
4086	General Psychology	3		3
3035	Radiation Physics 1	3	3	4
7154	Radiation Therapy Tech. 3	3	3	4
6352	Practicum			4
		9	6	15

SEMESTER 4

No.	Course Title	Class	Lab	Credits
3036	Radiation Physics 2	3	3	4
4014	Economics 1	3		3
5031	Medical Law and Ethics	1		1
7155	Radiation Therapy Tech. 4	3	3	4
6353	Practicum			4
		10	6	16

2084 - MATHEMATICS OF RADIOLOGY 3 credits

This is a review and presentation of the math necessary for the intelligent and versatile use of x-ray equipment. It is also the basis of the math needed for nuclear medicine and radiation therapy and is also taken by these students.

3035 - RADIATION PHYSICS 1 4 credits

The purpose of this course is to present the fundamentals of the structure of matter, electricity and electrical circuitry, the nature and production of x-rays, the basic principles underlying the proper operation of radiologic equipment and radiation safety procedures. *Offered Fall Semester*

3036 - RADIATION PHYSICS 2 4 credits

Detailed principles of Radiologic Physics and primarily concerned with Radiation Therapy. Includes equipment, accessories, measurements, dosimeters, dose calculations and treatment planning. It also includes the production and characteristics of Radionuclides. *Offered Spring Semester*

3091 - ANATOMY AND PHYSIOLOGY 1 4 credits

A comprehensive study of the structure and function of the human body, emphasizing the normal, which will serve as a background for the application of scientific principles both in everyday living and in the work of the various health disciplines. Laboratory practice includes the study of tissues by using microscopic examinations and the dissection of animal specimens, along with physiological experimentation. Units covered are concerned with general introductory material, the skeleton, muscles and the nervous system. PREREQUISITES: Biology and Chemistry.

3092 - ANATOMY AND PHYSIOLOGY 2 4 credits

A continuation of Anatomy and Physiology 1 concentrating on body metabolism, reproduction and endocrine control. Laboratory sessions are included. Emphasis is placed on associations, correlation, critical thinking and overview of the body as a whole. PREREQUISITE: 3091 - Anatomy and Physiology 1.

5031 - MEDICAL LAW AND ETHICS 1 credit

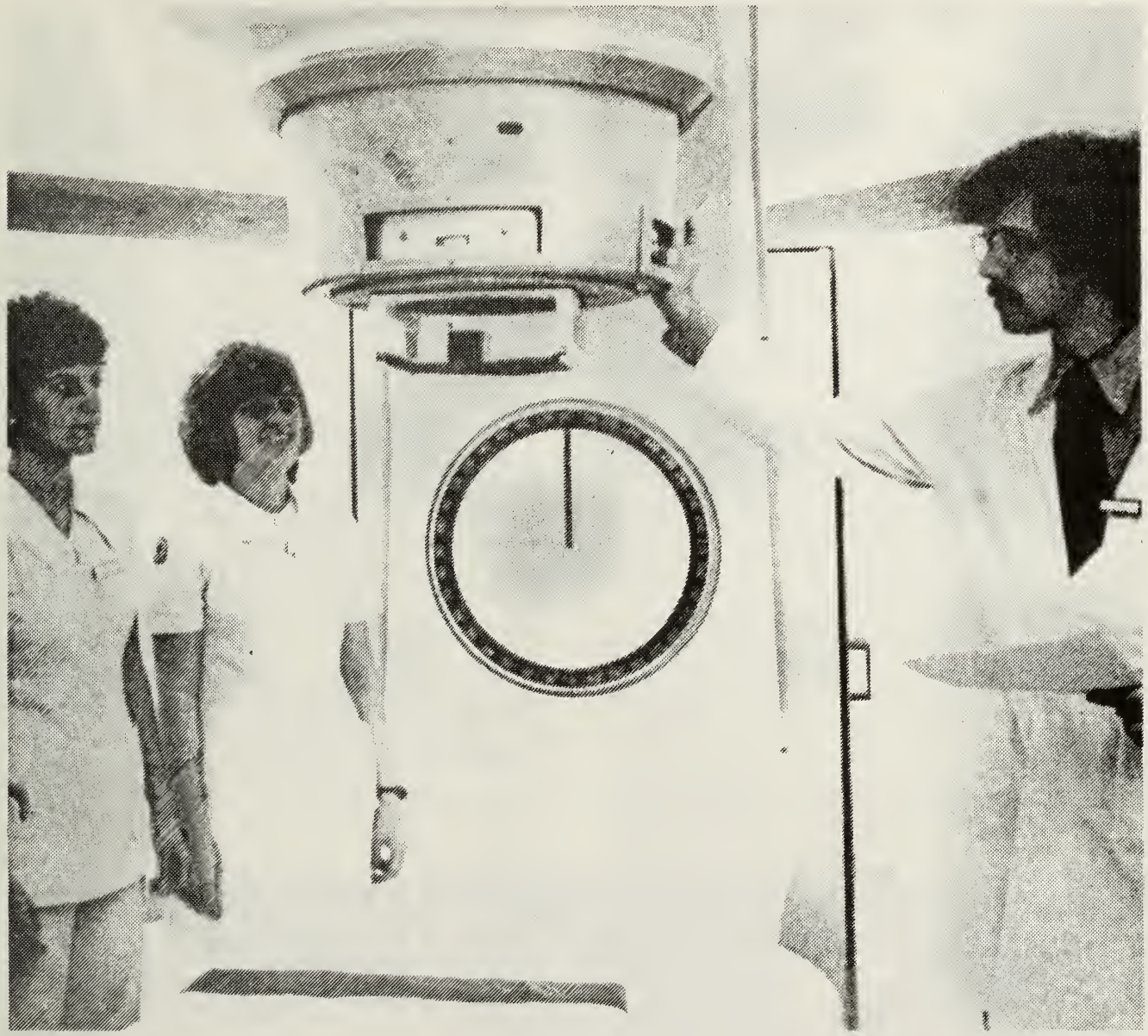
The application of law in real world situations encountered by medical personnel. Responsibilities and liabilities of health providers are balanced against the rights and expectations of patients. Traditional ethical questions are explored together with those arising coincident with changing medical practices and public attitudes.

5037 - MEDICAL TERMINOLOGY 2 credits

The student learns the medical terms used in pathology and radiology.

7151 - RADIATION THERAPY TECHNIQUES 1 4 credits

This course is devoted to learning the operation of the devices and machines used in radiation therapy, some safety precautions, ethics, the hospital team and generalized treatment procedures. *Offered Fall Semester*



7152 - RADIATION THERAPY TECHNIQUES 2 4 credits
This is a continuation of 7151, but the rationale of treatment is explored more deeply and more complicated treatments are performed. *Offered Spring Semester*

7154 - RADIATION THERAPY TECHNIQUES 3 4 credits
This is a continuation of Radiation Therapy Techniques 2, but entends to work on the computer and planning of treatment and plotting of treatment fields. The philosophy of treatment fields is also discussed. *Offered Fall Semester*

7155 - RADIATION THERAPY TECHNIQUES 4 4 credits
This is an extension of 7153 and includes a review of the previous work done in the course in preparation for the national boards examination. *Offered Spring Semester*

1080* - PRACTICAL MEDICAL SPANISH 3 credits
This is an interdisciplinary course. It teaches skills needed in the health and human service fields to establish oral communication with monolingual Spanish-speaking individuals. Students become acquainted with basic medical terminology and phrases needed in helping Spanish-speaking patients/clients. Class participation in Spanish is encouraged from the beginning. Cultural differences and similarities between USA and Latin America are also emphasized.

*This course is not reflected in the course curriculum. See Department Chairperson.

RADIOLOGIC TECHNOLOGY

The Radiologic Technology program prepares an individual to become an important member of the radiology team, in that he or she produces diagnostic films and radiographs as well as assisting the radiologist in fluoroscopic examinations.

Students spend half of each day at the College and the other half at the affiliating hospital, Bay State Medical Center. By keeping practicum and didactics in juxtaposition, the student learns better by being able to put into practice what he or she has recently learned. A live 500 mA x-ray unit, numerous phantoms, a wide assortment of grids, screens and other equipment on campus enable the student to attain the necessary skills. Exposure to anatomy and physiology, radiologic physics, radiologic math, and liberal arts courses including English Composition, sociology and psychology round out the curriculum. Students successfully completing this program will receive their Associate in Science degree from the College and will be eligible to take their National Board Examination from the American Registry of Radiologic Technologists, the national certifying body. The program operates under the auspices of the Joint Review Committee on Medical Education in Radiologic Technology of the American Medical Association. Applications must be submitted by February 15 ; course begins in July.

Minimum Grade Requirement: Students in Radiologic Technology are required to obtain a "C" (73%) as a final grade in the following courses: 3083-Radiologic Physics 1; 3084 - Radiologic Physics 2; 3091 - Anatomy & Physiology 1; 3092 - Anatomy & Physiology 2; 6166 - Radiologic Technology 1; 6167 - Radiologic Technology 2; 6168 - Radiologic Technology 3; and 6169 - Radiologic Technology 4. Upon the successful completion of this program, the degree of Associate in Science in Radiologic Technology will be awarded.

SUMMER SPECIAL

5037	Medical Terminology	2		2

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
2084	Mathematics of Radiology	3		3
3091	Anatomy & Physiology 1	3	3	4
6166	Radiologic Technology 1	3	3	4
6350	Practicum			2
		12	6	16

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	Composition 2: Intro. to Literature	3		3
3092	Anatomy & Physiology 2	3	3	4
6167	Radiologic Technology 2	3	3	4
6351	Practicum			2
		9	6	13

SUMMER SPECIAL

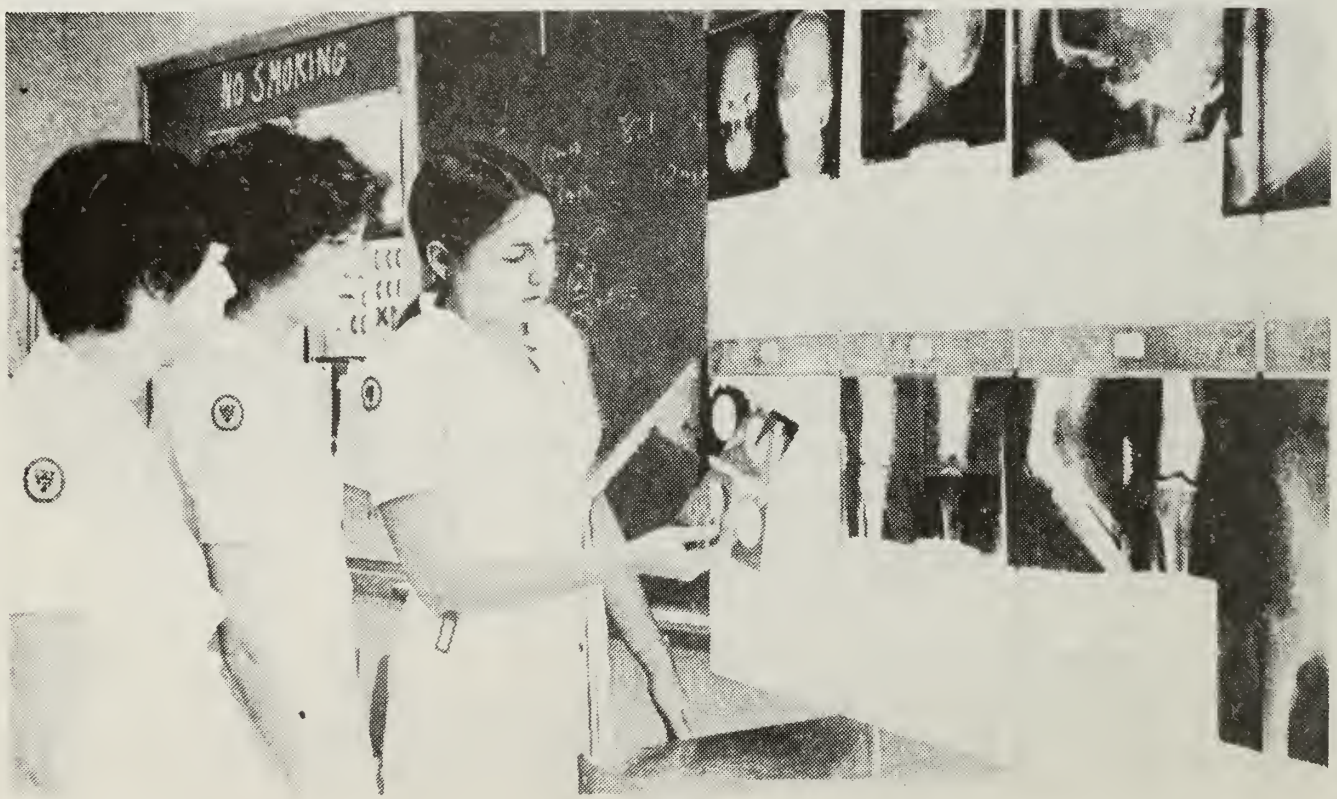
Practicum

SEMESTER 3

No.	Course Title	Class	Lab	Credits
4086	General Psychology	3		3
3083	Radiologic Physics 1	3	3	4
6168	Radiologic Technology 3	3	3	4
6352	Practicum			4
		9	6	15

SEMESTER 4

No.	Course Title	Class	Lab	Credits
4014	Economics	3		3
3084	Radiologic Physics 2	3	3	4
6169	Radiologic Technology 4	3	3	4
5031	Medical Law and Ethics	1		1
6353	Practicum			4
		10	6	16



2084 - MATHEMATICS OF RADIOLOGY 3 credits

This is a review and presentation of the math necessary for the intelligent and versatile use of x-ray equipment. It also provides the mathematical basis needed for nuclear medicine and radiation therapy and is taken by these students.

Offered Fall Semester

3083 - RADIOLOGIC PHYSICS 1 4 credits

Restricted to Departments 77, 78, 79. Topics covered are: basic mechanics, mass, force, energy, work, momentum. Electrostatic, magnetism, electromagnetism, basic electronics, solid state will be discussed with applications in radiology. Specific topics in radiology are the nature of the photon, electromagnetic spectrum, ionizing radiation, and radiation detection equipment. *Offered Fall Semester*

N.B. In addition there is a three-week (15 hour) lecture series in the June preceding this course. The course is Radiation Protection in Radiology covering radiation dose, radiation protection, inverse square law, basic radiobiology. At the terminus of the series there will be an hour exam, which mark will be included in the Fall Physics 3083/3583 mark. This course must be passed to continue in the summer clinical program.

3084 - RADIOLOGIC PHYSICS 2 4 credits

Restricted to Department 78. The topics discussed in Physics 3083 will be extended with more rigorous mathematics. Physical principles of diagnostic x-ray equipment will be discussed. Prerequisite is Physics 3083/3583.

Offered Spring Semester

3091 - ANATOMY AND PHYSIOLOGY 1 4 credits

A comprehensive study of the structure and function of the human body, emphasizing the normal, which will serve as a background for the application of scientific principles both in everyday living and in the work of the various health disciplines. Laboratory practice includes the study of tissues by using microscopic examinations and the dissection of animal specimens, along with physiological experimentation. Units covered are concerned with general introductory material, the skeleton, muscles and the nervous system. PREREQUISITES: Biology and Chemistry.

3092 - ANATOMY AND PHYSIOLOGY 2 4 credits

A continuation of Anatomy and Physiology 1 concentrating on body metabolism, reproduction, and endocrine control. Laboratory sessions are included. Emphasis is placed on association, correlation, critical thinking and overview of the body as a whole. PREREQUISITE: 3091 - Anatomy and Physiology 1.

5031 - MEDICAL LAW AND ETHICS 1 credit

The application of law in real world situations encountered by medical personnel. Responsibilities and liabilities of health providers are balanced against the rights and expectations of patients. Traditional ethical questions are explored together with those arising coincident with changing medical practices and public attitudes.

5037 - MEDICAL TERMINOLOGY 2 credits

The student learns the medical terms used in pathology and radiology.

6166 - RADIOLOGIC TECHNOLOGY 1 4 credits

This course is limited to students in the radiologic technology program. It deals with the correct positioning and technique for the extremities. The manufacture and composition of x-ray film is discussed together with the processing of it.

Offered Fall Semester

6167 - RADIOLOGIC TECHNOLOGY 2 4 credits

This is a continuation of 6166, the difference being that the x-raying of the trunk is covered, including the organs within the abdomen. The student progresses further into grids, magnification techniques, penetrometers and heating and cooling curves. *Offered Spring Semester*

6168 - RADIOLOGIC TECHNOLOGY 3 4 credits

This is a continuation of 6167 and the students study special views of the examinations already covered together with examinations requiring contrast media. *Offered Fall Semester*

6169 - RADIOLOGIC TECHNOLOGY 4 4 credits

This is a continuation of 6168 and is devoted to special procedures and a complete review of all the previous work. The special procedures are broken down into three areas; namely, radiographic equipment for special procedures, radiographic positioning, techniques for specific procedures and contrast media used. *Offered Spring Semester*

1080* - PRACTICAL MEDICAL SPANISH FOR ENGLISH SPEAKERS 1-3 credits

Students whose major is in any of the Health Divisions will become acquainted with basic medical terminology in the Spanish language. They will become familiar and conversant with questions, terminology and communication problems common to the medical profession in helping Spanish-speaking patients.

*This course is not reflected in the course curriculum. See Department Chairperson.

RESPIRATORY THERAPY

Respiratory Therapy is one of the newest fields in hospital work and has received considerable attention in recent years due to public interest in the problems of air pollution and smoking. The respiratory therapist administers treatments and medications to deal with diseases of the respiratory tracts such as emphysema, bronchitis and industrial diseases. Therapists also carry ou. various diagnostic tests to help the physician in determining the proper course of treatment for his patient, including mechanical ventilators and application of chest physiotherapy.

The graduate registered therapist is assured of rapid advancement in a field where there are apt to be more jobs than therapists to fill them. While the greater number of graduates work in hospitals or hold teaching positions, the future undoubtedly will see openings in industry, rehabilitation centers and home care programs.

The program is sponsored by area hospitals in cooperation with the College and is approved by the Board of Schools of Inhalation Therapy.

Minimum Grade Requirement:

Section A:

The student enrolled in the Respiratory Therapy Program must obtain a minimum grade of "C" (73%) in the following courses:

7078 - Fundamentals of Respiratory Therapy 1
7011 - Respiratory Therapy 1
7081 - Respiratory Therapy 2
7012 - Respiratory Therapy Application/Clinical Sciences
7009 - Affiliation Workshop
7010 - Affiliation Clinical Practice
3014 - Respiratory Physics and Equipment

Section B:

3028 - Microbiology
3091 - Anatomy & Physiology 1
3092 - Anatomy & Physiology 2
3109 - Chemistry 101
3110 - Chemistry 102

Any student not completing the requirements for Section A will not be allowed to continue in the program until he has satisfactorily completed the requirement. Any student not completing the requirements for Section B will be on a semester's probation in order to complete this requirement. Any student not obtaining the satisfactory grade requirement will not be allowed to affiliate. Each incident will be reviewed by the department chairperson and the advisory committee. Upon the successful completion of this program, the degree of Associate in Science in Respiratory Therapy will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Comp. 1	3		3
	Mathematics 2321, 22, 23	3		3
3091	Anatomy & Physiology 1	3	2	4
3109	General Chemistry 101	3	3	4
7078	Fund. of Respiratory Therapy	1	4	3
		13	9	17

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	Composition 2: Intro. to Lit.	3		3
3014	Respiratory Therapy Physics	3	3	4
3110	General Chemistry 102	3	3	4
3092	Anatomy & Physiology 2	3	2	4
4086	General Psychology	3		3
		15	8	18

SEMESTER 3

No.	Course Title	Class	Lab	Credits
3028	Microbiology	3	2	4
7011	Respiratory Therapy 1	2		2
7012	Resp. Ther. Appl/Clin Science 1	2	4	3
7013	Clinical Practice	1	4	2
7081	Respiratory Therapy 2	2		2
7088	Pulmonary Function Testing	1	2	2
7089	Mechanical Ventilation/Resuscit.	2	2	3
		13	14	18

SEMESTER 4

No.	Course Title	Class	Lab	Credits
7009	Affiliation Workshops	3	12	6
7010	Affiliation Clinical Practice	3	12	6
7014	Resp. Ther. Appl/Clin Science 2	1	8	3
		7	32	15

3014 - RESPIRATORY THERAPY PHYSICS 4 credits

Kinetic theory developed into the ideal gas laws. Application to respiratory therapy of the corrected gas laws. Colligative properties of fluids. Blood gases. Acid/Base balance, Poiseuille's Law. Bernoulli's Law. Venture. Basic electronics of respiratory therapy equipment. Electromagnetic spectrum. PREREQUISITE: 7078. *Offered Spring Semester.*

7009-7010 - AFFILIATION WORKSHOP & CLINICAL PRACTICE 6 credits each

The clinical, bedside and laboratory application of Respiratory Therapy is presented utilizing the facilities of affiliated hospitals under supervision of hospital therapists, physicians and adjunct faculty. Clinical affiliation is designed to expose students to all aspects of Respiratory Therapy and provide them with an environment in which to perform procedures at the patient's bedside, in the laboratory and in out-facilities. PREREQUISITES: 3014, 7078, 7011, 7012, 7013, 7088, 7089, 7081. *Offered Spring Semester*

7011 - RESPIRATORY THERAPY 1 2 credits

An extensive study in the use of various modes of aerosol, humidity and gas therapy, including O2, CO2, He, N2 therapy and hyperbaris chamber. The theories, principles and rationale of the various modes of therapy and their clinical application will be examined in depth. A unit of Respiratory Pharmacology is also included. PREREQUISITES: 3014, 7078. *Offered Fall Semester*

7012, 7014 - RESPIRATORY THERAPY APPLICATION AND CLINICAL SCIENCES 1 & 2 3 credits each

This is a two-part course offered over two semesters that encompasses intensive Respiratory Anatomy and Physiology designed to prepare the student for clinical judgment in Respiratory Therapy. Topics related to Respiratory function such as pulmonary function testing, respiratory pharmacology, controlled ventilation (physiological aspects) blood gas analysis and acid base balance and breath sounds are included. PREREQUISITES: 3014, 7078.

7013 - CLINICAL PRACTICE 2 credits

This is an introductory course in clinical affiliation. This course is designed to familiarize the student with the hospital as an institution. The student will be introduced to various procedures and departments within the hospital. The student will be exposed to basic functions of the Respiratory Therapy Dept. This course will allow for the smooth transition of the student into a more extensive clinical affiliation in the fourth semester. PREREQUISITES: 7078, 3014.

Offered Fall Semester

7078 - FUNDAMENTALS OF RESPIRATORY THERAPY 3 credits

This is an introductory course covering basic respiratory anatomy and physiology, fundamental theories, equipment and practices of Respiratory Therapy. This course is designed to provide the student with a foundation of knowledge and fundamental theory which will enable the student to grasp more complex theories and practices of Respiratory Therapy in subsequent courses. *Offered Fall Semester*

7081 - RESPIRATORY THERAPY 2 2 credits

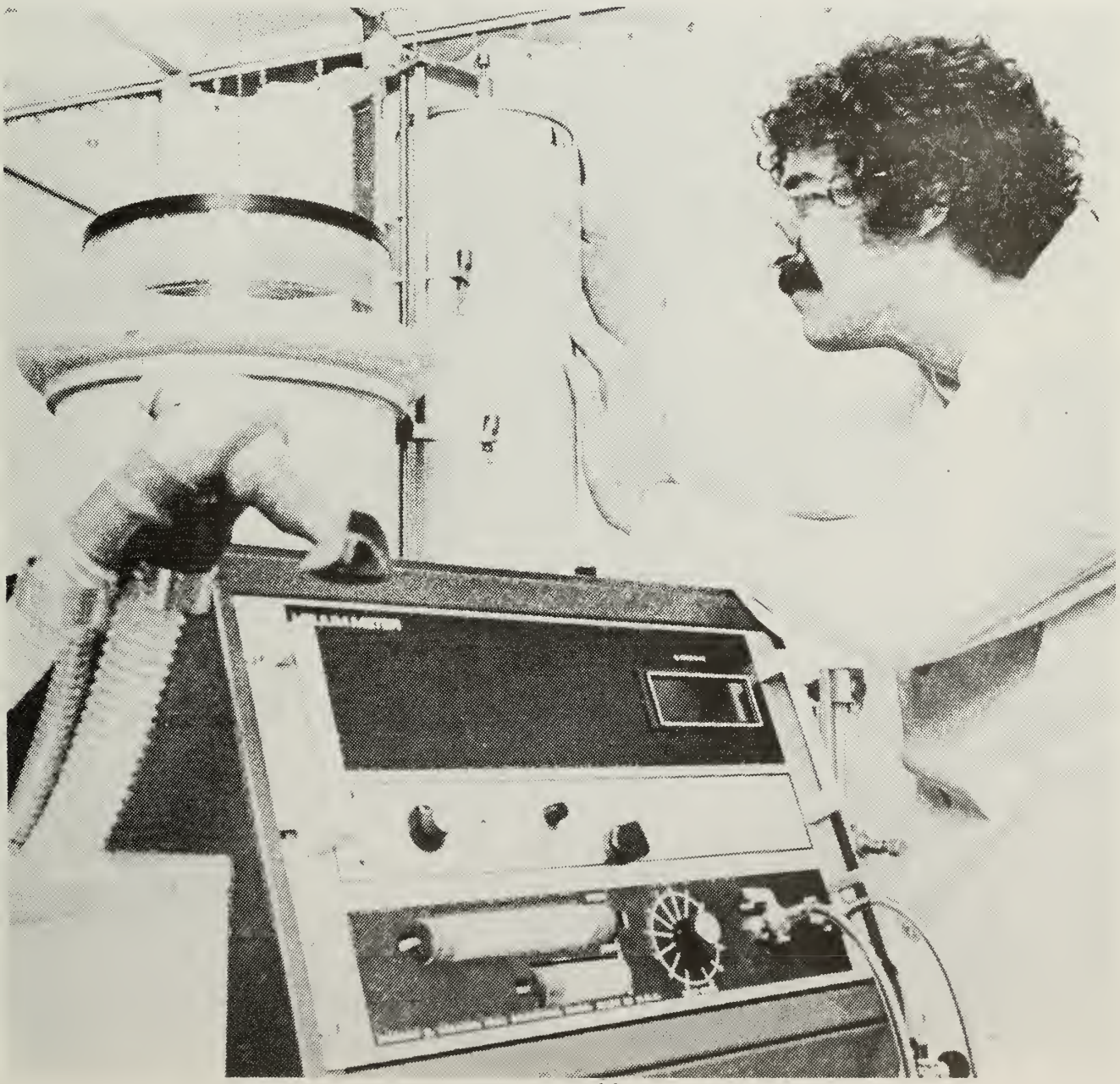
An extensive study of the principles and theories of IPPB, chest physio¬therapy and home rehabilitation. Equipment, facilities and current trends in these areas will be examined. Integration of the various modes of therapy and their clinical application is discussed in this course. PREREQUISITES: 7078, 3014. *Offered Fall Semester*

7088 - PULMONARY FUNCTION TESTING 2 credits

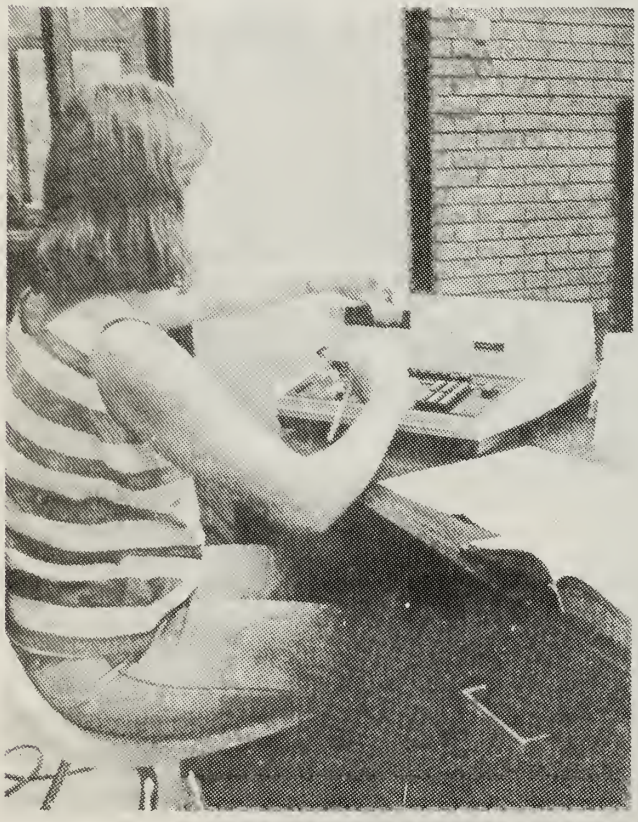
This course will examine in detail all diagnostic tests in use, their interpretation and the patterns of various respiratory diseases. This course is primarily taught in the pulmonary lab. Arterial blood gases and their interpretation are covered in depth. PREREQUISITES: 7078, 3014. *Offered Fall Semester*

7089 - MECHANICAL VENTILATION & RESUSCITATION 3 credits

An indepth study of the principles of mechanical ventilation and resuscitation. All ventilators in common use will be examined in detail and their clinical use will be discussed. Resuscitation equipment and their application will be included as will pediatric ventilation. PREREQUISITES: 3014, 7078. *Offered Fall Semester*




VOLUNTEER
INCOME
TAX
ASSISTANCE
S.T.C.C.





Business Administration/
Data Processing/Secretarial Sciences



BUSINESS ADMINISTRATION

The Business Administration Department offers a variety of programs to satisfy the needs of their students, whether it be the desire to transfer to a four-year college or university to complete the Baccalaureate Degree or enter the field of business directly from STCC. The main objective of the Department is to enable the student to develop those skills and proficiencies that are essential to the competent performance of professional work either in the classroom or on the job.

There is a comprehensive range of elective courses available in each of the three program offerings. These electives allow the student and faculty advisor to structure a program consistent with specific interests and goals.

The following illustrates the three options at STCC:

Option 1: Associate in Science in Business Administration.

- General Business
- Accounting
- Finance
- Management
- Marketing

Option 2: Associate in Arts in General Studies - Emphasis in Business Administration

Option 3*: BUSINESS ADMINISTRATION - Certificate Programs (1 year)

- Small Business Management
- Administrative Bookkeeper

All candidates for Associate Degrees in the Business Administration Department must complete a total of 62 or 63 credit hours of general and business courses. A minimum grade point average of 2.0 is required in both general and specialized areas.

*Subject to approval of the MBRCC.

Challenge and CLEP exams covering a number of career and general courses are available at STCC and other colleges.

The Department of Business Administration provides a common curriculum in the Freshman year for all Associate Degree programs, exposing students to a variety of introductory business courses before they choose a degree and a major.

Freshman Year
(Common Requirements for all programs)

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
2321-23	Mathematics (OR)			
2080	Finite Math 1	3		3
5023	Accounting 1	5		4
5050	Principles of Management	3		3
6001	Computer Concepts	4		4
		18		17

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	English Comp. 2	3		3
xxxx	*Math or Statistics Elective	3		3
5024	Accounting 2	5		4
5059	Intro. to Marketing	3		3
5099	Intro. to Finance	3		3
		17		16

* Limited to 2080, 2081, or 5060. Transfer students should take the Finite Math sequence: Semester 1 - 2080, Semester 2 - 2081



Option 1: BUSINESS ADMINISTRATION - Associate in Science Degree

The Department of Business Administration offers the following Associate in Science Degree majors to students:

- General Business
- Accounting
- Finance
- Management
- Marketing

The Associate in Science is a program with a minimum of 21 credit hours in general studies and the remaining 42 credits in business and general course electives. This is designed as a career program and/or a transfer program for many four-year colleges.

This degree should be considered if you are:

1. Interested in a business career and plan to seek a job after graduation.
2. Desire a specialized degree in one of the five listed majors.
3. Plan to transfer to a four-year institution which will accept the credits.

The following illustrates the course sequence for the Associate Degree options available for the second year of study.

General Business

The General Business Program allows those students desiring an Associate in Science degree maximum flexibility in choosing Business Department electives covering the Accounting, Finance, Management and Marketing areas. The student receives a general overview and broad background in business subjects. This option may be preferred by those unable to decide on a major after completing the freshman core business program (described previously) and/or contemplating transfer to a four-year college which will accept the credits.

Senior Year Courses

SEMESTER 3

No.	Course Title	Class	Lab	Credits
4014	Economics 1	3		3
5048	Business Law 1	3		3
xxxx	Business Dept. Elective	3		3
xxxx	Business Dept. Elective	3		3
4008	Intro. to Sociology (OR)			
4086	General Psychology	3		3
		15		15

SEMESTER 4

No.	Course Title	Class	Lab	Credits
4015	Economics 2	3		3
5049	Business Law 2	3		3
xxxx	Business Dept. Elective	3		3
xxxx	Business Dept. Elective	3		3
xxxx	General Elective	3		3
		15		15

Accounting

The demand for trained accountants has increased substantially with the growth and complexity of business and government. Students of accounting, therefore, must follow a program of training which prepares them to handle the financial accounts of private and public organizations. The modern accountant must have an appreciation of all aspects of business organizations as well as technical proficiency in the following accounting matters: maintaining accurate accounting records; preparing and analyzing various reports, such as financial, funds and cash flow; payroll and payroll tax procedures. Manpower projections have typically shown that accountants are among those who are in high demand and well paid.

Senior Year Courses

SEMESTER 3

No.	Course Title	Class	Lab	Credits
4014	Economics 1	3		3
5048	Business Law 1	3		3
5040	Intermediate Accounting 1	4		3
5026	Cost Accounting	4		3
4008	Intro. to Sociology (OR)			
4086	General Psychology	3		3
		17		15

SEMESTER 4

No.	Course Title	Class	Lab	Credits
4015	Economics 2	3		3
5049	Business Law 2	3		3
5041	Intermediate Accounting 2	4		3
5044	Managerial Finance (OR)			
5064	Intro. to Fed. Income Taxes	3		3
xxxx	General Elective	3		3
		16		15

Finance

A study of the field of finance exposes the student to the sources and uses of money. Such a curriculum includes courses in the raising of new capital, the efficient use of available funds, investing, money and banking, the Federal Reserve System and other basic studies related to the monetary system. Emphasis is given to analysis of financial statements as well as fiscal planning and management.

Senior Year Courses

SEMESTER 3

No.	Course Title	Class	Lab	Credits
4014	Economics 1	3		3
5048	Business Law 1	3		3
5046	Money & Banking	3		3
5222	Managerial Accounting	3		3
4008	Intro. to Sociology (OR)			
4086	General Psychology	3		3
		15		15

SEMESTER 4

No.	Course Title	Class	Lab	Credits
4015	Economics 2	3		3
5049	Business Law 2	3		3
5089	Investments	3		3
5044	Managerial Finance	3		3
xxxx	General Elective	3		3
		15		15

Management

The management program at STCC is designed to give the students a comprehensive background in the area of management. The curriculum is student-oriented primarily because its content respects the student's need for a challenging, thorough examination of the field of management, and because it provides a sound foundation for further study. In addition, specialized courses such as personnel, labor relations, finance, productions and operations research provide the student with the necessary knowledge to make positive contributions to any commercial or non-commercial organization.

Senior Year Courses

SEMESTER 3

No.	Course Title	Class	Lab	Credits
4014	Economics 1	3		3
5048	Business Law 1	3		3
5052	Personnel Management	3		3
5222	Managerial Accounting	3		3
4008	Intro. to Sociology (OR)			
4086	General Psychology	3		3
		15		15

SEMESTER 4

No.	Course Title	Class	Lab	Credits
4015	Economics 2	3		3
5049	Business Law 2	3		3
5053	Labor Relations	3		3
5054	Production Management (OR)			
5225	Techniques of Management	3		3
xxxx	General Elective	3		3
		15		15

Marketing

In recent years, marketing has become an increasingly important activity within our society and, in particular, in New England where there is a growing emphasis on the providing of services. Marketing is a broad field which includes defining and creating a market or a product, gauging and meeting customer wants and needs, advertising, sales, retailing, fashion and merchandising and related areas. Essentially, the study of marketing relates to the performance of business activities that direct the flow of goods and services from producers to consumers.

Senior Year Courses

SEMESTER 3

No.	Course Title	Class	Lab	Credits
4014	Economics 1	3		3
5048	Business Law 1	3		3
5058	Retailing	3		3
5068	Advertising and Promotion	3		3
4008	Intro. to Sociology (OR)			
4086	General Psychology	3		3
		15		15

SEMESTER 4

No.	Course Title	Class	Lab	Credits
4015	Economics 2	3		3
5049	Business Law 2	3		3
5069	Sales & Sales Management	3		3
5081	Consumer Behavior	3		3
xxxx	General Elective	3		3
		15		15

Option 2: ASSOCIATE IN ARTS in General Studies
Emphasis in Business Administration

The Associate in Arts option is designed for those business students planning on transferring to the University of Massachusetts. However, there may be other four-year colleges and universities that will recognize this program for transfer. It requires a minimum of 36 credit hours in general studies. The remaining 27 credits are in business and general electives. This programs allows a great deal of flexibility in course selection. Thus, students should consider this degree if they:

1. Are seeking a greater choice of electives and a broader mix of liberal arts studies than is permitted in the other Business Administration options.
2. Desire to transfer to a specific four-year state institution, such as the University of Massachusetts, which requires its incoming juniors to meet the compact program.

Senior Year Courses

SEMESTER 3

No.	Course Title	Class	Lab	Credits
4014	Economics 1	3		3
xxxx	Literature Elective	3		3
(1)	Humanities Elective	3		3
4008	Intro. to Sociology	3		3
(2)	Elective	3		3
		15		15

SEMESTER 4

No.	Course Title	Class	Lab	Credits
4015	Economics 2	3		3
4086	General Psychology	3		3
xxxx	Humanities Elective	3		3
(2)	Elective	3		3
(3)	Math or Science Elective	3		3
		15		15

Note: Students planning to transfer to the University of Massachusetts should take:

1. 1007 Speech
2. Electives
   5222 Managerial Accounting
   5048 Business Law 1
3. 3 credit hours of Statistics - 2016 or laboratory science



Option 3: BUSINESS ADMINISTRATION CERTIFICATE (1 year program) - Small Business Management and Administrative Bookkeeping*

Two-semester programs leading to a Certificate can be extremely valuable to persons who do not have the time or the inclination to undertake a full two-year program. An additional advantage of this program is that the courses may be transferred to a two-year degree in business administration should the student elect to continue on for an Associate Degree.

With business today calling more and more for trained individuals with specific skills, certificate-level programs are well suited to fill the following needs.

- Small Business Administration: Individuals who are operating or planning to open small firms of their own will find that the Small Business Administration option is a particularly worthwhile and valuable course of study.
- Administrative Bookkeeping: Manpower studies indicate that the occupation of bookkeeper is in high demand in this region.

Certificate programs should be considered by the following persons:

1. Students who do not have the time to pursue a two-year degree program.
2. Students who wish to acquire skills rapidly in a specialty area, but who wish to leave open the option to acquire an associate degree later.
3. Graduates of a two-year technical program who plan to enter fields requiring basic business skills.

*Subject to program approval of MBRCC.
Planned Implementation Sept., 1979.

Small Business Management

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
5229	Small Bus. Acct. & Control	5		3
5205	Small Business Marketing	3		3
5228	Small Bus. Personnel Mgt.	3		3
5208	Small Business Law	3		3
		17		15

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1007	Speech	3		3
5204	Small Bus. Pln. Control & Financ.	5		3
5232	Office Management & Control	3		3
(1)	Business Department Elective	3		3
5207	Small Bus. Mgt. Seminar	3		3
		17		15

(1) Suggested Business Department Electives:

- 5064 - Federal Income Taxes
- 5222 - Managerial Accounting
- 5058 - Retailing
- 5068 - Advertising and Promotion
- 5069 - Sales and Sales Management
- 5214 - Merchandising
- 5053 - Labor Relations
- 5054 - Production Management
- 5224 - Purchasing

Administrative Bookkeeping

SEMESTER 1

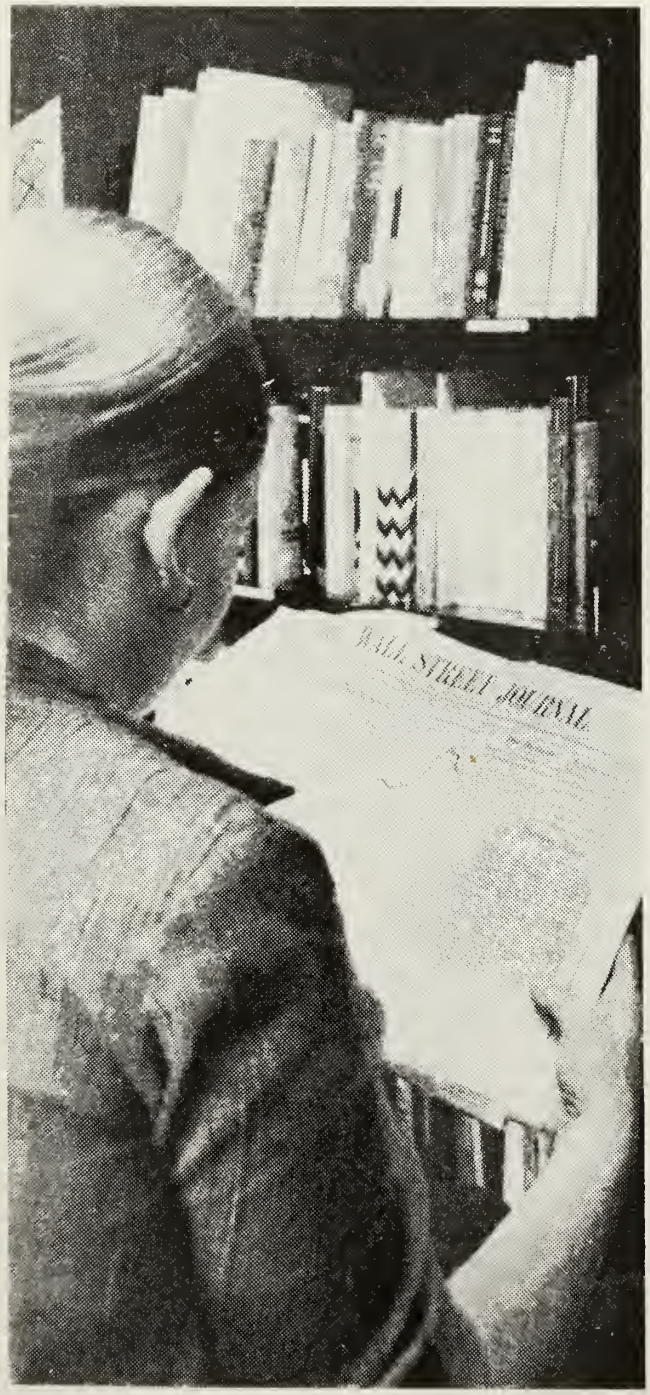
No.	Course Title	Class	Lab	Credits
5022	College Accounting 1	5		3
2011	Business Math	3		3
5008	Typewriting 1	3		3
1006	Business English	3		3
5070	Consumerism	3		3
		17		15

SEMESTER 2

No.	Course Title	Class	Lab	Credits
5038	College Accounting 2	5		3
5228	Small Bus. Personnel Mgt.	3		3
5009	Typewriting 2	3		3
(1)	Business Dept. Elective	3		3
5232	Office Management & Control	3		3
		17		15

(1) Suggested Business Department Electives:

- 5029 - Small Business Management
- 5056 - Personnel Financial Planning
- 5064 - Federal Income Tax
- 5088 - Principles of Insurance
- 5089 - Investments



In order to assist the reader with the course descriptions on the following pages, the list below summarizes the various courses that fall within the specific major areas of concentration:

ACCOUNTING ELECTIVES
Intermediate Accounting 1
Intermediate Accounting 2
Cost Accounting
Advanced Cost Accounting
Federal Income Tax 1
Federal Income Tax 2
Auditing
Governmental & Fund Accounting
Accounting Practicum

FINANCE ELECTIVES
Credit Management
Managerial Finance
Financial Statement Analysis
Investments
Money and Banking
Personal Financial Planning
Finance Practicum
Principles of Banking
Trust Functions and Services
Loan Financing and Administration
Bank Management

MANAGEMENT ELECTIVES

GENERAL
Production Management
Personnel Management
Labor Relations Management
Small Business Management
Business Policies
Collective Bargaining in the Public Sector
Office Management & Control
Managerial Accounting
Management Practicum

INDUSTRIAL
Supervisory Management
Production Management
Production Planning & Control
Work Methods & Design
Purchasing
Principles of Transportation 1
Principles of Transportation 2

REAL ESTATE
Principles of Real Estate
Residential Appraisal
Commercial & Industrial Appraisal
Real Estate Investments & Finance
Real Estate Management
Real Estate Law

INSURANCE
Principles of Insurance
Property Insurance
Casualty Insurance
Life, Accident & Health
Group & Social Insurance
Insurance Law

SMALL BUSINESS MANAGEMENT
Small Business Accounting & Control
Small Business Marketing
Small Business Personnel Management
Small Business Planning, Control & Finance
Small Business Seminar
Small Business Law
Small Business Practicum

TRAVEL AND TOURISM MANAGEMENT
Principles & Development of Tourism 1
Principles & Development of Tourism 2
Travel Agency Operation

MARKETING ELECTIVES
Advertising and Promotion
Retailing
Sales and Sales Management
Consumer Behavior
Consumerism
Merchandising
Materials Design & Analysis
Fashion Coordination
Marketing Practicum

ACCOUNTING

5005 - MEDICAL ACCOUNTING 3 credits
An introductory course covering the basic structure, concepts and principles of accounting. Emphasis is placed upon the daily record keeping, classification and summarization of the financial information which flows within a medical office. The accounting cycle including statement presentation is examined along with such areas as cash, receivable, payable, payroll and taxes. (This course is restricted to the Allied Health Student). *Offered Fall and Spring*

5022 - COLLEGE ACCOUNTING 1 3 credits
An introductory course covering the basic structure, concepts and principles of accounting. Emphasis is placed upon the daily record keeping, classification and summarization of the financial information which flows within a business enterprise. The accounting cycle including statement presentation is examined along with such areas as sales, purchases, cash, receivables, payables, payroll and taxes. (This course is restricted to the secretarial, administrative bookkeeper or technology student.). *Offered Fall Semester*

5038 - COLLEGE ACCOUNTING 2 3 credits
The course expands upon the fundamentals learned in College Accounting 1 and examines the role of accounting in the various types of business enterprises. Records maintained on the accrual basis, accounting for long-term debts, investments and deferred and payable items are mastered and integrated with the complete accounting cycle. PREREQUISITE: 5022 or equivalent. (This course is restricted to the secretarial or administrative bookkeeper.). *Offered Spring Semester*

5023 - ACCOUNTING 1 4 credits

An introductory course designed to present to the student the nature of accounts and the basic structure, concepts and principles of accounting. Major emphasis is placed upon the recording, classifying and summarizing of the financial data generated within a business enterprise. The various aspects of the accounting cycle are examined; included are the proper journalization of business transactions, the preparation of financial statements and the computation of depreciation and inventory valuation. Various internal control procedures including the voucher system are examined in detail.

Offered Fall and Spring

5024 - ACCOUNTING 2 4 credits

Enlarging on the fundamental principles outlined in 5023 Accounting 2 leads the student into the examination of the multiple forms of ownership; i.e., partnerships and corporations. The various aspects of accounting relating to these organizations are analyzed. Statement analysis and funds flow are studied with a view toward managerial decision-making. As part of today's management, information systems, cost accounting and budgeting controls are explored in detail. PREREQUISITE: 5023. *Offered Fall and Spring*

5040 - INTERMEDIATE ACCOUNTING 1 3 credits

The course is designed to provide the student with a more comprehensive study of the generally accepted accounting principles and attempts to develop within the student the ability to analyze clearly financial statements. The balance sheet, income statement, retained earnings statements, are thoroughly scrutinized. The nature, importance and presentation of the following balance sheet accounts are examined in detail: Cash, Accts. Rec., Inventory Investments. PREREQUISITE : 5024. *Offered Fall Semester*

5041 - INTERMEDIATE ACCOUNTING 2 3 credits

The course provides a further examination of the nature, importance and presentation of specific balance sheet items. Plant assets, intangible assets, current and long-term liabilities and Stockholder Equity accounts are all covered in detail. The increasing importance of the funds flow statement is discussed and preparatory procedures are examined. Time permitting, some specialized financial analysis techniques are explored. PREREQUISITE: 5040. *Offered Spring Semester*

5026 - COST ACCOUNTING 3 credits

This course provides an overview of the nature and purpose of cost accounting. Within the framework of the course the student is encouraged to develop a conceptual understanding of the interrelationships of cost data, budgets, standards and reports and their logical continuity, beginning with accumulation of cost data, through the necessary procedures and routines and ending with the final reports for management analysis. Topics included: cost concepts and techniques; job order costing; planning and controlling product costs; budget planning and expenditures; flexible budgets; standard costing; process costing; and by-products and joint products costing. PREREQUISITE: 5024. *Offered Fall Semester*

CE5042 - ADVANCED COST ACCOUNTING 3 credits

A continuation of 5026. Includes the study of process costing, standard costing, gross profit analysis, direct costing and contribution margin, profitability analysis, break-even and cost-volume analysis, differential cost analysis, capital budgeting, product pricing, and linear program. PREREQUISITE: 5026.

5064 - INTRODUCTION TO FEDERAL INCOME TAXES 1 3 credits

This course presents a comprehensive explanation of the Federal structure and the accepted practice used in applying tax principles in specific problems as they relate to the preparation of returns involving individuals; Massachusetts income taxes as they affect individuals are also reviewed. PREREQUISITE: 5024. *Offered Spring Semester*

5074 - FEDERAL INCOME TAX 2 3 credits

This course presents a continuation of Introduction to Federal Income Tax 1. It presents a comprehensive explanation of the Federal Income Tax laws as they affect partnerships, corporations, estates, gifts, and trusts. PREREQUISITE: 5064 *Offered Spring Semester*

5191 - MEDICAL OFFICE ACCOUNTING AND MANAGEMENT 3 credits

Medical Office Accounting and Management offers a complete background of accounting concepts and practice for the cash basis service business, with particular emphasis on the specific constraints of accounting for a medical office. Additional exposure to relevant theory and record keeping for medical insurance requirements and computer systems is given. Other management lectures included are in the area of personnel, office layout, public relations in patient handling, staff coordination, development of effective collections systems, proper tax reporting, and supplies control.

Offered Spring Semester

CE5221 - GOVERNMENTAL & FUND ACCOUNTING 3 credits

Specialized area of accounting developed in answer to the special needs of non-profit organizations. Covers principles of fund accounting as applied to governmental units and private, non-profit, educational institutions and hospitals. Particular emphasis on accounting for municipal governments. PREREQUISITE: 5040.

5222 - MANAGERIAL ACCOUNTING 3 credits

An introduction to the internal uses of accounting for management planning and control. The point of view will be on the use rather than the construction of accounting data. Areas of study include the uses of product cost information, volume-profit relationships, variance analysis, budgeting, long-range planning, responsibility accounting and the effect of price level changes. (This course is specifically for business majors other than accounting majors.) PREREQUISITE: 5024. *Offered Fall Semester*

CE5223 - AUDITING 3 credits

The philosophy of the auditing process, and its applications. Preparation of audit work papers. Auditor's reports, opinions, and significance to various interested parties. Internal auditing procedures. Development of audit programs, generally accepted auditing procedures; review of internal control systems. Particular emphasis on professional ethics and legal responsibilities of the auditor; auditing of EDP systems. PREREQUISITE: 5040..

CE5229 - SMALL BUSINESS ACCOUNTING & CONTROL 3 credits

The accounting concepts and principles presented in this course are designed to meet the needs of the small business manager. The subject is approached from the point of view of the user of accounting information rather than that of the accountant who supplies the information. Methodology and procedures used to collect, summarize, analyze and repeat

accounting information is presented from a management perspective. Accounting topics which have proven through time and experience to be vital for the efficient operation of the small business will be covered including accounting for planning and control; inventory and accounts receivable management; preparation and analysis of financial statements; budgets and other internal reports; payroll; federal and state taxes; and break-even analysis.

CE 5204 - SMALL BUSINESS PLANNING, CONTROL & FINANCES 3 credits

This course covers the procedures and techniques of accounting analysis applicable to the managerial functions of credit and collection, cash budgeting control and planning. The student will also be required to evaluate the different methods and costs of obtaining capital, culminating in the formulation of a complete proposal package for a small business of his choice. PREREQUISITES: 5023 or 5229.

Courses will be offered subject to sufficient enrollment.

FINANCE

5099 - INTRODUCTION TO FINANCE 3 credits

This course is designed to acquaint the student with the manner in which the financial system functions and with the techniques used to reach financial decisions. Major topics to be studied include financial institutions and markets, financial planning and forecasting, investing in plant and equipment, securities analysis, and the managing and financing of assets. Special emphasis is given to the interdependence of financial decision-making and the financial environment.

Offered Spring Semester

5044 - MANAGERIAL FINANCE 3 credits

The principle focus of Managerial Finance is on decisions and actions that are undertaken in light of the firm's objectives. Certain key concepts and commonly used tools of financial analysis are developed. Included are such topics as ratio analysis, sources and use of funds analysis and financial control techniques. This material provides a useful overview of finance, and the ideas and terminology developed here facilitate an understanding of all the other parts of the course. Topics to be covered include decisions involving long-term assets, sources and forms of long-term financing, financial structure and leverage and cost of capital calculations. PREREQUISITE: 5024. *Offered Spring Semester*

CE5045 - CREDIT MANAGEMENT 3 credits

This course provides an examination and analysis of credit as a business instrument in the contemporary environment. Stress is placed on the functions of the credit analyst and of the credit manager. Included in these are the analysis of credit markets, the study of credit instruments and the determination of credit worthiness. PREREQUISITE: 5024.

5046 - MONEY AND BANKING 3 credits

The nature and functions of money are examined in considerable detail. The role of the commercial banking system as a creator of money and of the central banking system as regulator of the money supply is analyzed. The course includes an extensive study of non-bank financial intermediaries. Open only to seniors. *Offered Fall Semester*

CE5047 - FINANCIAL STATEMENT ANALYSIS 3 credits

The evaluation of management's performance and the determination of the future condition of the firm is undertaken in this course. Balance sheet and income statement data provide the necessary information to evaluate and analyze the condition of the firm in terms of return on capital invested and use of working capital. The tools and techniques used in this course include ratios, sources and uses of funds analysis, cash flow projection and budgetary planning for current and future business operations. PREREQUISITE: 5024.

5056 - PERSONAL FINANCIAL PLANNING 3 credits

The course is designed to provide the student with an analysis of the various components making up the financial planning. From this basis, the various products available are examined in depth. These include the various types of insurance including Life, Accident and Health, Property, Liability and Disability Income. Annuities are also included within this section. In addition various investments available are discussed. These include savings, stocks, bonds, mutual funds, tax-sheltered investments and commodities. Interwoven throughout these discussions is the potential impact these investments have on an individual's federal income tax. The last major areas to be investigated are those of estate analysis and retirement planning. Alternative ways to handling these areas are presented and discussed. *Offered Spring Semester*

5089 - INVESTMENTS 3 credits

This is a beginning course in investment management with special emphasis on the principles governing individual and institutional investment programs. Topics covered include the mechanics of investment, investment media, securities analysis and portfolio management. Open to seniors only.

Offered Spring Semester

CE5217 - PRINCIPLES OF BANKING 3 credits

This course is designed to acquaint the student with the basic principles underlying the major objectives of banking operation, the social and economic responsibilities of the bank in the community, the several relationships between a bank and its depositors and an examination of the expanding range of banking services.

CE5218 - TRUST FUNDS AND SERVICES 3 credits

This course introduces students to the organizational structure of a trust department and its wide variety of services. Personal trust, insurance trust, corporate and employee trust and community and institutional trust are examined. The course inquires into the administration of these various trusts and analyzes the legal aspects and problems of property rates, wills and the settlement of estates. The historical background of trust and institutions is treated. PREREQUISITE: 5217.

CE5219 - LOAN FINANCING & ADMINISTRATION 3 credits

An investigation of the sources, costs and availability of funds for business and personal uses. The study stresses an analysis of short-term and long-term loans for business, including accounts receivable financing, consumer installment and mortgage credit. PREREQUISITE: 5217 and 5024.

CE5220 - BANK MANAGEMENT 3 credits

This course analyzes the manner in which bank policy is formulated. It reviews the responsibility of management for organizational planning, personal placement and for control over specific bank activities. The role of management in the deposit function in the employment of bank funds, in loans and investments and the trust operations, is carefully examined. This course is chiefly concerned with the art of management. PREREQUISITE: 5217, 5024.

Courses will be offered subject to sufficient enrollment.

LAW

5031 - MEDICAL LAW & ETHICS 1 credit

The application of law in real world situations encountered by medical personnel. Responsibilities and liabilities of health providers are balanced against the rights and expectations of patients. Traditional ethical questions are explored together with those arising coincident with changing medical practices and public attitudes. *Offered Fall and Spring*

5048 - BUSINESS LAW 1 3 credits

The primary purpose of a course in business law is to develop an understanding of the legal framework of business—the basic principles of law that apply to business transactions. Since the students of the course are not seeking training as lawyers, preventative law becomes an important objective. Emphasis is spent on contracts, agency, employment, personal property and bailments. *Offered Fall and Spring*

5049 - BUSINESS LAW 2 3 credits

The purpose outlined in Business Law 1 is continued with emphasis upon the Law of Sales, commercial paper such as promissory notes, drafts and checks, real property arrangements such as Landlord & Tenant, Leases, Wills and Intestacy and Bankruptcy. PREREQUISITE: 5048. *Offered Fall and Spring*

CE5203 - INSURANCE LAW 3 credits

The course is for the purpose of giving students an understanding of insurance and the manner in which the machinery of the law is used and useful for the regulation of business relationships and the enforcement of rights, especially in the business of insurance. Topics studied: insurable interest; making of the contract; premiums; ascertainment and control or risk; waiver and estoppel; construction of Fire, Liability, Life, Accident and Group contracts; and the legal doctrines and remedies common in insurance litigation. Special emphasis on the Law of Torts under which liability for bodily injuries, damage to property and other kinds of injuries resulting from wrongful acts is created. Because of its importance in connection with Public Liability insurance, special stress will be placed on the Law of Negligence. Other forms of torts will be considered and the extent to which they are or can be covered by Liability insurance explained.

CE5208 - SMALL BUSINESS LAW 3 credits

This course is designed to familiarize the student with his legal rights and responsibilities. Included are Law of Sales, security devices, real property, customer and employee liabilities, governmental regulation and labor laws, personal and business tax liabilities and business estate planning. Lecture and case analysis will be combined to examine and evaluate the complexities of the subject matter outlined above.

CE5210 - REAL ESTATE LAW 3 credits

This course aims to acquaint the participant with the legal processes and instruments involved in real estate transactions; it does not attempt to supplant the services of the attorney. Included are titles, easements, deeds, contracts, agreements of sale, mortgages, foreclosures and redemptions, liens, wills and probate, tenant and landlord relations, leases and conveyancing. Public aspects of real estate business, such as construction and zoning laws, taxes and insurance, are considered.

CE5331 - MEDICAL LAW FOR HEALTH PERSONNEL 3 credits

This course will cover the relationship between The Law and Society as primarily applicable to the practice of medicine. Discussions will cover the sources and type of law, authority and liability of medical and paramedical personnel and their licensure and registration. Medical ethics, confidentiality, insurance and negligence will be considered along with torts, contracts and crimes.

Courses will be offered subject to sufficient enrollment.

MANAGEMENT

5050 - PRINCIPLES OF MANAGEMENT 3 credits

This course provides the student with an introduction to the science and the art of management. A fundamental premise of the course is that management skills and techniques are transferable among various kinds of organizations (e.g., business, governmental, educational) through which the objectives of a society are pursued. The course provides particular emphasis in the areas of organizational structures and processes, decision-making, planning, leadership, motivation, communication and control. *Offered Fall and Spring*

5029 - SMALL BUSINESS MANAGEMENT 3 credits

This course is designed to expose the student to the problems of starting, operating and evaluating the effectiveness of the small business. Topics covered include the various forms of organization, financing, cost structure, location, sources of personnel, marketing and competition. PREREQUISITE: 5024, 5050. *Offered Fall & Spring*

5051 - BUSINESS POLICIES 3 credits

This course seeks to develop within the student an understanding of the overall administrative process through an integrating case-study approach. Particular emphasis is given to the role of planning and control in the functional areas of business management - i.e., production, marketing, and finance. PREREQUISITE: 5024. 5050. 5059. *Offered Spring Semester*

5052 - PERSONNEL MANAGEMENT 3 credits

The primary aim of a course in personnel management is to provide an understanding of the role of the personnel department in the administration of the personnel program and the processes relating to it. The major emphasis is upon the role of departmental supervisors, managers, and their superiors in the management of subordinate personnel according to the objectives and policies of the personnel program of the organization. Areas of study include the basic personnel processes that are involved in the procurement, development and maintenance of these human resources, including those relating to the selection, training, motivation and renumeration of employees and in maintaining relations with their unions. PREREQUISITE: 5050. *Offered Fall Semester*

5053 - LABOR RELATIONS 3 credits

This course is designed to expose the student to the philosophy, activities and objectives of the American labor movement. Areas of analysis include the history of unionism, the collective bargaining process, labor legislation and the search for institutional security. Emphasis is placed upon the dynamics of the expanding area of labor management relations. PREREQUISITE: 5050. *Offered Fall and Spring*

5054 - PRODUCTION MANAGEMENT 3 credits
This is a practical course emphasizing the organization and operation of the production system. Included are capital equipment utilization, work measurement and methods analysis, cost, quality and production control, job evaluation and wage incentive systems. Consideration is given to the quantitative aspects of modern management and their value to the executive. PREREQUISITE: 5050. *Offered Fall & Spring*

5225 - TECHNIQUES OF MANAGEMENT 3 credits
Application of principles and analytical techniques for planning and control are presented within a problem solving context. Topics to be considered include decision theory, waiting-line methods, linear programming, net-work programs, inventory models, and forecasting. In addition, participation in the management of a firm in a simulated industry is required. Students, organized into management teams, apply their knowledge of various techniques of management and economics in a competitive struggle for profit and market share. PREREQUISITE: 2080. *Offered Spring Semester*

CE5232 - OFFICE MANAGEMENT & CONTROL 3 credits
This course exposes the student to the problems of the Office Manager including the major ideas of what has to be done, how it is going to be done and who is going to do it. In addition, a study of the control procedures on information and personnel is reviewed. PREREQUISITE: 5050.

CE5254 - COLLECTIVE BARGAINING IN THE PUBLIC SECTOR 3 credits
A brief overview of the legal and historical framework of collective bargaining followed by a detailed analysis of the process as it affects public employees. Special emphasis will be directed toward the Massachusetts statute and its application to various employee groups.

CE5055 - SUPERVISORY MANAGEMENT 3 credits
A study of the skills and techniques needed to perform effectively supervisory work, especially those dealing with people and difficult work situations. More specifically, some of the skills covered are oral and written communication, leadership, grievances, training, rating, promotion, quality and quantity control and labor management relations. Cassettes, records and text will be used to bring actual supervision cases into the classroom for discussion as well as written analysis. PREREQUISITE: 5050.

CE 5057 - PRODUCTION PLANNING & CONTROL 3 credits
Study of management controls as applied to production: The development of the functions of routing, scheduling, activating and monitoring; emphasizing production and material control systems, plant and equipment analysis and budgeting, quality control and inspection, statistical quality control, maintenance analysis and production efficiency. PREREQUISITE: 5054.

CE5076 - WORK METHODS & DESIGN 3 credits
The study of the evolution of identifying, describing and analyzing the problem and the development of motion and time study. Topics covered include motion analysis and work simplication, theory and practice of time study, work performance evaluation and wage incentive and the developing, selecting, installing of new methods. PREREQUISITE: 5054.

CE5224 - PURCHASING 3 credits
This course is designed to introduce the student to the world of modern purchasing. An overview of purchasing management and organization along with policies and procedures is presented. The basic legal aspects of purchasing, purchasing ethics, sources of supply and value analysis are explored and presented for class discussion. Modern methods of purchasing are reviewed using the case method approach. PREREQUISITE: 5050.

CE5230 - PRINCIPLES OF TRANSPORTATION 1 3 credits
A general course in basic transportation principles. An emphasis on the history of transportation up to modern-day transportation. Some practical information necessary for the movement of goods. Discussions will include Bills of Lading - Various Freight Terms - Water Transport, Land Transport with special emphasis on Rail and Truck Transportation. PREREQUISITE: 5050.

CE5231 - PRINCIPLES OF TRANSPORTATION 2 3 credits
A course designed to give those interested in a possible Transportation career a working knowledge of Traffic Management and Transportation Sales, Duties & Responsibilities in various fields of Transportation. Discussions will include: Terminal & Special Line-Haul Services - Transportation Costs - Traffic Management's Role in Decision-Making. PREREQUISITE: 5230.

5090 - PRINCIPLES OF REAL ESTATE 3 credits
This course covers the basic laws and principles of Massachusetts Real Estate. It touches upon legal processes and instruments involved in Real Estate operation, titles, deeds, mortgages, liens, contracts and leases. It gives understanding, background and terminology, necessary for advanced study in specialized courses. This could well assist those preparing for the license examination. *Offered Fall & Spring*

CE5092 - RESIDENTIAL APPRAISAL 3 credits
This course covers the fundamentals of appraising as applied to residential properties. Included are purposes of appraisals, varying concepts of valuation, acquisition of data used for appraisals covering tables, techniques, special factors and final estimates. Writing of reports and preparation of expert testimony for court purposes are given. PREREQUISITE: 5090.

CE5093 - COMMERCIAL & INDUSTRIAL APPRAISAL 3 credits
The principles covered in Residential Appraisal are applied to commercial and industrial properties. An analysis of business neighborhoods covering apartment buildings and hotels as well as all types of industrial and manufacturing properties is made. PREREQUISITE: 5092.

CE5095 - REAL ESTATE INVESTMENTS & FINANCING 3 credits
Various opportunities and inherent problems in the investment in real estate are reviewed. In addition, the fundamentals of financing real estate are covered. Included are instruments of finance, particular applications to leases, bond issues, mortgage lending and income tax effects as a factor. Competing agencies of federal financing organizations and real estate brokers are reviewed. PREREQUISITE: 5089, 5090.

CE5209 - REAL ESTATE MANAGEMENT 3 credits
This course covers the real estate operator's functions in exchange and speculation in properties, financing and developing, whether he is running his own business or a department in a brokerage firm. Problems inherent in managing apartments and cooperative apartments are reviewed. PREREQUISITE: 5090.

5088 - PRINCIPLES OF INSURANCE 3 credits
The historical background and developing and understanding of the basic principles of insurance as well as the nature and operation of the insurance business. Emphasis given to the principles which underlie the entire field of insurance. Understanding is developed in the fundamental areas of: Indemnity insurable interest, Co-Insurance, Subrogation, Proximate Cause, Other Insurance, Risk, Requisites of Insurable Risk, Deductibles, Valued Policies, Probability and many others. The important functional areas of rating, underwriting, marketing and adjusting are considered as well as the subjects of Regulation, Reinsurance and Company Organization. The powers and functions of insurance agents and brokers. *Offered Spring Semester*

CE5085 - PROPERTY INSURANCE 3 credits
Emphasis is placed on understanding coverage, policy provisions, and concepts common to property insurance. Contracts and forms studied include standard fire policy, extended coverage endorsement, dwelling and contents forms, building and contents forms, crime policy, business interruption forms, daily customers policy and the property coverage provided by multiple-line contracts. PREREQUISITE: 5088.

CE5098 - CASUALTY INSURANCE 3 credits
Emphasis placed on understanding coverages, policy provisions and concepts peculiar to the common casualty, surety and multiple-line contracts. Contracts studied include the Automobile Policy, Workmen's Compensation and Employers Liability Policy, Owner's, Landlords', and Tenants' Liability Policy, Comprehensive General Liability Policy, Comprehensive Personal Liability Coverage and the Liability Insurance aspects of modern multiple-line contract. PREREQUISITE: 5088.

CE5200 - LIFE,ACCIDENT & HEALTH INSURANCE 3 credits
A basic course in the background and development of Life Insurance, its economic functions and its principles and practices. Consideration will be given to the history of Life Insurance, types of contracts, the functions of Life Insurance settlement options, special policies, mortality tables, the premium, the reserve surrender values, dividends, selection of risks, substandard insurance, participating and non-participating insurance, home office and agency organization, state supervision and regulation and other general aspects of the subject. PREREQUISITE: 5088.

CE5202 - GROUP & SOCIAL INSURANCE 3 credits
Analysis of group insurance; including products, marketing, underwriting, re-insurance premiums, and reserves. Also, various governmental and private programs related to the economic problems of death, old age, unemployment and disability. PREREQUISITE: 5088.

CE5228 - SMALL BUSINESS PERSONNEL MANAGEMENT 3 credits
The central theme of this course is the personnel responsibility and function of the small business manager. Full attention is devoted to the traditional personnel topics and functions including personnel policies, programs and methodologies; employee selection; training; labor relations; pay administration; employment laws; health and safety; benefits and services. In addition, realistic case problems are presented throughout the course. This will provide the students with an opportunity to apply theory, concepts and principles so that they can adapt their knowledge and skills to particular circumstances.

CE5206 - SMALL BUSINESS PRACTICUM 3 credits
The student applies knowledge obtained in previous courses to a real business situation. This is done by assigning a small group of students to a new or existing business that is in need of management consultation in the various problematic aspects of the business; including technical assistance in the development of a loan proposal, financial projections and business planning. This course provides the student with the same valuable experience that co-op offers the students in other academic disciplines. PREREQUISITES: 5204, 5205, 5228, 5229.

CE5207 - SMALL BUSINESS SEMINAR 3 credits
A variety of problems encountered by small businesses are discussed and evaluated in this course. The student must apply basic business concepts and tools acquired in previous courses to problematic situations presented by way of case studies and small business game simulation. Guest lecturers also will be brought in to discuss management problems and techniques for solving these problems, bringing to the class a different



perspective and, it is hoped, a fresh idea. PREREQUISITES: 5204, 5205, 5228, 5229

CE5211 - PRINCIPLES & DEVELOPMENT OF TOURISM 1 3 credits

Introduces to the student the numerous aspects of tourism as related to recreational facilities, industrial development, historical points of interest, etc. Besides a study of domestic tourism and business travel, international topics such as documentation health certificates, tourist cards, money exchange, will be treated.

CE5212 - PRINCIPLES & DEVELOPMENT OF TOURISM 2 3 credits

An in-depth study of pricing, regulations, regulatory bodies governing travel and transportation. Scheduling and fare computation are discussed. PREREQUISITE: 5211.

CE5213 - TRAVEL AGENCY OPERATION 3 credits

The primary objective of this course is to analyze the steps required to staff and develop a functional and profitable agency. The student is exposed to a point-by-point analysis of various phases of Travel Agency Development, such as: Location, Interior Layout and Design; Consumer Responsibilities and Office Management Techniques. PREREQUISITE: 5212.

CE5234 - MANAGEMENT & ORGANIZATION FOR THE MEDICAL OFFICE 3 credits

The primary purpose of this course is to increase the economic efficiency of the medical office. It will focus on the managerial process, specifically on the functions of planning, organizing, staffing, influencing and controlling; and their relation to the daily job of the supervisor. Participating students will become aware of the application of principles of organization and management in the modern medical office.

Courses will be offered subject to sufficient enrollment.

MARKETING

5059 - PRINCIPLES OF MARKETING 3 credits

This course emphasizes a well-rounded basic approach that provides maximum exposure to the role of marketing in the economy and in the firm. To achieve this exposure, an overview is presented of the marketing process and a detailed description of major marketing institutions and functions. The work of marketing is also linked to the whole environment by examining the responsibilities of marketers to our society from the point of view of consumerists and the law. The course will service two types of students—those who want some knowledge of the activities involved in the flow of goods and services from producers to consumers as part of their general education, and those who plan a career in marketing.

Offered Fall & Spring

5058 - RETAILING 3 credits

This course will introduce the student to the field of retailing and will provide the theoretical and technical knowledge necessary for retail employment and middle management. An overview of retailing is presented including such vital areas as organizational structures, merchandising practices and procedures, promotional activities, store planning and control. PREREQUISITE: 5059. *Offered Fall Semester*

5068 - ADVERTISING AND PROMOTION 3 credits

The student is exposed to the field of advertising. Included is the function of advertising and the advertising agency, the design of the copy and the layout and the comparison of the various advertising media. In addition, the advertising promotion, cost, budget and control will be reviewed, utilizing the case study method where feasible. PREREQUISITE: 5059. *Offered Fall Semester*

5069 - SALES AND SALES MANAGEMENT 3 credits

This course will introduce the student to the fields of salesmanship and sales management. The salesmanship portion of the course will be presented through programmed learning, presenting the theories, concepts, techniques and processes involved in selling. The sales management section will include the systems, policies, and procedures used to implement business plans. Such functions,as planning, organizing, and reporting, controlling and forecasting, will be utilized to analyze the field of marketing management. PREREQUISITE: 5059. *Offered Spring Semester*

5081 - CONSUMER BEHAVIOR 3 credits

The aim of this course is to understand why people buy as the foundation for developing concepts for meeting consumer needs through selling, advertising, distribution and related activities. Behavioral considerations affecting consumer purchase decisions are analyzed. These include the personality, motivational, cognitive and attitudinal aspects, along with the social influences which affect consumer interaction with business firms. PREREQUISITE: 5059.

Offered Spring Semester

CE5070 - CONSUMERISM 3 credits

The development of an analytical structure within which the underlying issues facing the marketing profession are studied. The pre-purchase, purchase and post-purchase phases of a transaction receive detailed consideration in terms of the legal obligations of the buyer, the seller and the financer. Contemporary consumer concern with advertising, pricing and selling practices is examined along with legal requirements covering product safety, warranties, liability, and consumer recourse. PREREQUISITE: 5059.

CE5205 - SMALL BUSINESS MARKETING 3 credits

The various aspects of the marketing function are presented in this course. The course will provide a conceptual treatment of the marketing system, markets and managerial issues peculiar to a small business; focusing on purchasing, controlling and displaying merchandise, determining the target market, advertising, promotion pricing, distribution and competition.

5214 - MERCHANDISING 3 credits

A study of the principles and procedures used in selection, promotion and selling of hard and soft good merchandise in retail stores to develop an understanding of the major considerations of buying, inventory control, pricing and consumer buying motives. PREREQUISITES: 5059, 5058.

Offered Spring Semester

CE5215 - FASHION COLOR DESIGN & ANALYSIS 3 credits

A study of the nature, source, characteristics, applications and uses of basic materials. The processes of manufacturing are reviewed. Current concepts of color and design are explored

Field trips are taken as well as sample materials brought into the classroom. PREREQUISITE: 5214.

CE5216 - FASHION COORDINATION 3 credits
Involves the study of the principles, specialized fashion techniques and sources of information utilized by fashion directors and coordinators in wholesale and retail organizations. Workshops projects such as fashion shows, fashion clinics, written and oral fashion reports and forecasts will be assigned. PREREQUISITE: 5215.

Courses will be offered subject to sufficient enrollment.

STATISTICS

2016 - STATISTICS 3 credits
Measures of central tendency and variability; the normal and binomial distributions; hypothesis testing; interval estimations for mean and variance; sampling techniques; correlation. PREREQUISITE: Math 2333 or Finite Math 1 (2080).
Offered Fall & Spring

5060 - BUSINESS STATISTICS 3 credits
Business statistics is designed to provide a clear, concise discussion of the essential elementary statistical methods used in business and economics today. While the major emphasis is placed on the methods themselves, the theoretical background is explored where necessary for thorough understanding. This course is approached non-mathematically and is designed for the student with a limited math background. The student is encouraged to do field problems and projects during the term. PREREQUISITE: 2321. *Offered Fall & Spring*

Courses will be offered subject to sufficient enrollment.



BUSINESS ADMINISTRATION TRANSFER

Two associate degree options are available for transfer students:

1. The Business Administration Program (A.S. degree) or
2. The Liberal Arts: Business Administration Program (A.A./General Studies degree)

In either case, the selection of electives is crucial. Four-year college Business Administration departments have different policies relative to the general and business courses which will be accepted for transfer credit. Thus, it is essential that any student entering the transfer program, at the outset, carefully plan his course selection and sequence. This is best done in consultation with an academic advisor. The responsibility for selecting courses that will satisfy the requirements of the transfer institution, however, is solely the student's.

It should be noted that the Business Administration Department of the University of Massachusetts has requirements somewhat different from other area four-year colleges. Thus, a transfer program for the University of Massachusetts requires a careful structuring and will typically involve more liberal arts courses and fewer business courses during the first two years of study. A proper sequence can best be structured through the Liberal Arts option. For specific details on departmental and academic regulations, as well as course selection, elective requirements and course description, please refer to that section of the catalog under Business Administration.

Freshman Year
(Common Requirements for both programs)

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
2080	Finite Math 1	3		3
5023	Accounting 1	5		4
5050	Principles of Management	3		3
6001	Computer Concepts	4		4
		18		17

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	English Comp. 2	3		3
2081	Finite Math 2	3		3
5024	Accounting 2	5		4
5059	Intro. to Marketing	3		3
5099	Intro. to Finance	3		3
		17		16

Business Administretion/Associate in Science
(Senior Year Courses)

SEMESTER 3

No.	Course Title	Class	Lab	Credits
4014	Economics 1	3		3
5048	Business Law 1	3		3
xxxx	Business Department Elective	3		3
xxxx	Business Department Elective	3		3
4008	Intro. to Sociology (OR)			
4086	General Psychology	3		3
		15		15

SEMESTER 4

No.	Course Title	Class	Lab	Credits
4015	Economics 2	3		3
5049	Business Law 2	3		3
xxxx	Business Department Elective	3		3
xxxx	Business Department Elective	3		3
xxxx	General Elective	3		3
		15		15

Associate in Arts/General Studies (Emphasis in Business Administration)

SEMESTER 3

No.	Course Title	Class	Lab	Credits
4014	Economics 1	3		3
xxxx	Literature Elective	3		3
xxxx	Humanities Elective	3		3
4008	Intro. to Sociology	3		3
xxxx	Elective	3		3
		15		15

SEMESTER 4

No.	Course Title	Class	Lab	Credits
4015	Economics 2	3		3
4086	General Psychology	3		3
xxxx	Humanities Elective	3		3
xxxx	Elective	3		3
xxxx	Elective	3		3
		15		15



DATA PROCESSING

The Data Processing Department offers a variety of programs to satisfy the needs of most students. In recent years the utilization of computers has extended into every area of business, whether large or small, into most state and local government agencies.

As a result, the need for trained personnel in various areas of computer utilization has increased sharply in the past few years and is continuing

The main objectives of the Department are to enable the student to develop skills and proficiencies that are essential to the performance of professional work whether it be in the classroom or on the job.

There is a range of elective courses available in the degree program offerings. These electives allow the student and faculty advisor to structure a program consistent with specific interests and future goals of the student.

All candidates for the Associate in Science degree in Data Processing must complete the curriculum as shown in the catalog at time of acceptance into the college program whether it be the day or evening college. A minimum grade point average of 2.0 is required in both general and specialized areas for graduation.

In some cases work experience may be recognized for course credit, e.g., CO-OP. Also we have challenge exams covering a number of career and general courses available at STCC.

Option 1. Computer Programming Concentration

SEMESTER 1

No.	Course Title	Class	Lab	Credits
(1)	Math Elective	3		3
5023	Accounting 1	5		4
5050	Principles of Management	3		3
6001	Computer Concepts	3	2	4
6017	Programming 1 (R.P.G.)	3	2	4
6391	D/P Seminar 1	1		0
		18	4	18

SEMESTER 2

No.	Course Title	Class	Lab	Credits
(2)	Math Elective	3		3
1004	English Composition 1	3		3
5024	Accounting 2	5		4
5099	Principles of Finance	3		3
6270	Programming 2 (R.P.G. 2)	3	2	4
6392	D/P Seminar 2	1		1
		18	2	18

SEMESTER 3

No.	Course Title	Class	Lab	Credits
1008	Technical Report Writing	3		3
6011	Assembler Language (B.A.L.)	3	2	4
6012	Programming 3 (Cobol 1)	3	2	4
6202	D/P Systems & Procedures	3		3
	Elective (Business)	3		3
9922	Keyboard Skills		2	
6393	D/P Seminar 3	1		0
		16	6	17

SEMESTER 4

No.	Course Title	Class	Lab	Credits
6013	Programming 4 (Cobol 2)	3	2	4
6016	Programming Project	2	2	3
6269	Computer Operations	2	2	3
4011	Computer's & Society	3		3
6394	D/P Seminar 4	1		1
		11	6	14
			Total	67

Option 2. D/P Systems Analyst Concentration

SEMESTER 1

No.	Course Title	Class	Lab	Credits
(1)	Math Elective	3		3
5023	Accounting 1	5		4
5050	Principles of Management	3		3
6001	Computer Concepts	3	2	4
6017	Programming 1 (R.P.G.)	3	2	4
6391	D/P Seminar 1	1		0
		18	4	18

SEMESTER 2

No.	Course Title	Class	Lab	Credits
(2)	Math Elective	3		3
1004	English Composition 1	3		3
5024	Accounting 2	5		4
6202	D/P Systems & Procedures 1	3		3
6270	Comp. Programming 2 (R.P.G. 2)	3	2	4
6392	D/P Seminar 2	1		1
		18	2	18

SEMESTER 3

No.	Course Title	Class	Lab	Credits
1008	Technical Report Writing	3		3
6402	D/P Systems 2	3	2	4
6012	Programming 3 (Cobol 1)	3	2	4
9922	Keyboard Skills		2	1
	Elective (Business)	3		3
6393	D/P Seminar 3	1		0
		13	6	15

SEMESTER 4

No.	Course Title	Class	Lab	Credits
6269	Computer Operations	2	2	3
6396	Field Project	1	6	4
6403	D/P Systems 3	3	2	4
4011	Computers & Society	3		3
6394	D/P Seminar 4	1		1
		10	10	15
			Total	66

Option 3. One Year Certificate Program - Computer Operator

*Subject to program approval by the MBRCC. Planned implementation, September, 1979.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
5022	College Accounting 1	3		3
5050	Principles of Management	3		3
6269	Computer Operations	2	2	3
6001	Computer Concepts	3	2	4
9922	Keyboard Skills		2	1
6391	D/P Seminar 1	1		0
		15	6	17

SEMESTER 2

No.	Course Title	Class	Lab	Credits
5038	College Accounting 2	3		3
1008	Technical Report Writing	3		3
6202	D/P Systems & Procedures 1	3		3
6017	Programming 1 (R.P.G.)	3	2	4
6395	Computer Operations 2	2	2	3
6392	D/P Seminar 2	1		1
		15	4	17

NOTES:

1. Any Math course other than 2301 Basic Math, or 2311 Algebra 1 (Students who plan to continue into a 4-year college and test at 2331 - above should take 2080 Finite Math 1.)

2. Any level of Math beyond 2321 Algebra 2, or 2016 Math Statistics or 5060 Business Statistics (Students continuing into a 4-year college should take either 2081 Finite Math 2 or 2016 Math Statistics.)

3. Business Electives are limited to the following courses. (Transfer students should take 5059 Principles of Marketing.)

5059 - Principles of Marketing
5026 - Cost Accounting
5044 - Managerial Finance
5217 - Principles of Banking
5051 - Business Policies
5090 - Principles of Real Estate
5048/49 - Business Law 1 & 2
5088 - Principles of Insurance
5060 - Business Statistics

6001 - COMPUTER CONCEPTS 4 credits

This course prepares the student to develop an understanding of the role that data processing plays in the business community. The student will learn to develop programs through the use of BASIC and FORTRAN programming

languages. Videa (CRT's), hard copy terminals and a remote card input terminal is available for student use. An overview of various accounting systems and how they are applied to computers is briefly covered. PREREQUISITE: None.

6009 - FORTRAN FOR TECHNOLOGIES 3 credits
This course is designed to offer an introduction to the computer language Fortran. The content of the course will include a brief introduction to the general theory of digital computers as well as fortran programming. Fortran will be studied as an example of a computer language. Sprcial attention will be placed upon using Fortran as a powerful tool in solving a number of diverse problems drawn from science and engineering. PREREQUISITES: 2311-13.

6011 - BAL-BASIC ASSEMBLY LANGUAGE 4 credits
Basic Assembly Language is a computer language directly related to computer Machine Language on a one for one basis. The assembly Language used is the one available on both IBM and Univac Equipment. Upon completion of this course the student will be able to write, assemble and "debug" programs. Extensive use of the Univac computer in the Data Processing Laboratory will aid the student in bridging the gap between the theoretical and the practical. Required for Data Processing Majors. PREREQUISITE: Computer Concepts.
Offered Fall Semester

6012 - COBOL 1 4 credits
COBOL, (Common Business Oriented Language) was developed under the auspicies of the Department of Defense with the cooperation of a number of computer manufacturing companies and major users of computers in the United States. COBOL is a compiler-type language designed to handle business problems. Students will use a medium scale computer to test and "debug" the many business programs that will be written as requirements of this course. Required for Data Processing majors. PREREQUISITE: Computer Concepts 6001.
Offered Fall Semester

6013 - COBOL 2 4 credits
Advanced COBOl coding techniques for tape and disk files are covered. Coresaving techniques and special features such as SORT verb and REPORT WRITER facility are included. Business-oriented applications will be discussed and programmed in detail. Upon completion of this course, the student will be qualified to design and program a typical business problem in COBOL. Required for Data Processing Majors. PREREQUISITE: Computer Concepts 6001 and Cobol 1, 6012.
Offered Spring Semester

6017 - PROGRAMMING 1 (R.P.G.) 4 credits
R.P.G. (Report Program Generator) is the most widely used computer language today. All major computer manufactures make provisions for its utilization in their computers. The course will instruct the student to write, debug and run the programs. Students will be given problems covering areas of payroll, inventory control, accounts receivable and payable. Students must punch and debug their own programs. PREREQUISITE: 6001 Computer Concepts.
Offered Fall and Spring

6270 - PROGRAMMING 2 (R.P.G. 2) 4 credits
This course is a continuation of R.P.G. (6017). Upon completion, the student will be able to write programs using Tables, Arrays and Subroutines. Furthermore, the student will write programs for disk and tape. All programs are keypunched onto cards, tested and debugged on a remote device known as a RJE (Remote Job Entry), on line with our computers. PREREQUISITE: 6017 Programming 1 (R.P.G.)
Offered Fall and Spring



SECRETARIAL SCIENCES

The Secretarial Science Department offers six different career programs to satisfy the varied needs of the business community. The executive, legal, medical, or bilingual secretary gains a broad background knowledge of the business world as well as a wide range of knowledge in her specific field. She becomes competent in all secretarial skills and is prepared to enter her chosen field well-equipped with the practical experience needed for the business office.

By choosing Principles of Management as a senior elective, a student will be qualified to sit for the Certified Professional Secretary examination given by the National Secretaries Association International. A member of the faculty who is a CPS will advise the student in preparing for the examination. The department also sponsors a chapter of the Future Secretaries Association, which is under the auspices of the National Secretaries Association International.

The court stenographer is trained to fill positions in the courts or the government. All careers are based on the individual's proficiency in taking machine shorthand at high rates of speed. Upon the successful completion of these programs, the degree of Associate in Science in Secretarial Science will be awarded. The clerical office assistant is trained in a one-year certificate program that prepares the graduate for basic office responsibilities with particular emphasis on filing and machine transcription.

BILINGUAL SECRETARIAL

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1100	Communications Skills 1	3		3
1147	Spanish for Spanish Speakers 1	3		3
5908	Typing 1 Lab	3	2	3
2011	Business Math	3		3
5160	IPM Shorthand 1	3		4
		15	2	16

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
1148	Spanish for Spanish Speakers 2	3		3
5909	Typing 2 Lab	3	2	3
5164	IPM Shorthand 2	3		4
4020	Hist. & Culture of Puerto Rico & Hispanic America 1	3		3
		15	2	16

SEMESTER 3

No.	Course Title	Class	Lab	Credits
1152	Translation for Bilingual	3		3
5153	Bilingual Typing	3	2	3
5022	College Accounting	3		3
4086	General Psychology	3		3
5016	Secretarial Practice 1	3		3
		15	2	15

SEMESTER 4

No.	Course Title	Class	Lab	Credits
5108	IPM Transcription	3		3
5017	Business Calculating Machines	3		3
1006	Business English	3		3
5131	Bilingual Machine Transcription	2	1	3
	Elective	3		3
		14	1	15

1147 - SPANISH FOR SPANISH SPEAKERS 3 credits

This class will consist of a review of Spanish grammar with the main emphasis on the development and enrichment of writing skills. More specifically the student will be given a brief history of the Spanish language, study parts of the Spanish language, phonetics, spelling, commercial composition and contrastive analysis. *Offered Fall Semester*

1148 - SPANISH FOR SPANISH SPEAKERS 2 3 credits

Continuation of Spanish for Spanish Speakers 1 (1147).

Offered Spring Semester

1152 - TRANSLATION FOR BILINGUAL 3 credits

This course brings together the skills acquired in the two languages (Spanish and English) to make the student an effective bilingual office worker. Students are introduced to translation as it applies to secretarial science.

Offered Fall Semester

4020 - HISTORY AND CULTURE OF PUERTO RICO AND HISPANIC AMERICANS 3 credits

This class is designed to provide the student with some insight into his or her ancestry and culture in the context of United States society. Although not all the students are of Puerto Rican descent, it will be up to the individual instructor to incorporate, where possible, into the course historical and cultural data pertaining to other Spanish countries.

Offered Spring Semester

5908 - TYPING LAB 1 3 credits

This is a basic course in which correct typewriting techniques, skill, and accuracy are stressed. Timed writings from 3 to 5 minutes are introduced. The student becomes familiar with centering, tabulations, block letter style, simple memorandums, postcards, rough drafts, and manuscripts. The slide-tape presentation of the instruction aid in individual progress, and the student learns to type at his (her) own pace. The minimum speed requirement for the course is 30 words per minute for three minutes with three or less errors.

Offered Fall Semester

5909 - TYPING LAB 2 3 credits

This course is a continuation of 5908 with continued development of speed and accuracy together with a thorough mastery of all letter styles, interoffice correspondence, addressing envelopes, rough draft materials, manuscripts, and ruled tabulations. The slide-tape presentation of the instruction aids in individual progress, and the student masters the required skills at his (her) own pace. The minimum requirement for this course is 40 words per minute for five minutes with five or less errors. *Offered Spring Semester*

5153 - BILINGUAL TYPING 3 credits

The student who has already mastered the English keyboard is now introduced to the Spanish keyboard. The student masters the production of tabulations, memorandums, business letters and envelopes, manuscripts from rough drafts, outlines, and the preparation of standard business forms in both English and Spanish. Minimum speed and accuracy in both languages is 45 w.p.m. on five-minute timings with a maximum of five errors. PREREQUISITE: 5909; typing speed of 40 words per minute for 5 minutes.

5108 - IPM TRANSCRIPTION 3 credits

This course is designed to develop the student's ability to take dictation at high rates of speed and to transcribe accurately. No credit is given unless the transcript is mailable. Shorthand theory, punctuation, spelling, and vocabulary are stressed throughout the course. This course combines individualized taped instruction with weekly dictation and the individualized assistance of the instructor.

Offered Spring Semester

5131 - BILINGUAL MACHINE TRANSCRIPTION 3 credits

In this course, the student learns the technique and operation of machine transcription equipment in the transcription of both English and Spanish correspondence. Emphasis is on mailable transcripts. Grammar, spelling, punctuation, capitalization and proofreading are stressed.

Offered Spring Semester

5160 - INDIVIDUAL PROGRESS SHORTHAND 1 4 credits
In this course emphasis is placed on the mastery of the principles of Gregg Shorthand with particular attention to penmanship, vocabulary, spelling, and punctuation. The mastery of the principles and the building of vocabulary are developed through reading and writing shorthand. Instruction is individualized and the student learns at his (her) own pace through tapes correlated with the text. The minimum requirement for the course is 50 words per minute for two minutes on familiar material with 95 percent accuracy.

Offered Fall and Spring

5164 - INDIVIDUAL PROGRESS SHORTHAND 2 4 credits
This course continues with the refinement of the principles of Gregg Shorthand with further emphasis on penmanship, vocabulary, spelling, and punctuation, and on the development of dictation and transcription skills. Instruction is individualized and the student develops the required skills through tapes correlated with the text. The minimum requirement for the course is 70 words per minute for three minutes on new material with 95 percent accuracy.

Offered Fall and Spring

CLERICAL OFFICE ASSISTANT (1 YEAR)

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
2011	Business Math	3		3
5008	Typewriting 1	5		3
5123	Clerical Office Practice	1		1
5124	Records Management 1	1		1
5125	Records Management 2	1		1
5130	Intro. to Word Processing	2	2	3
		16	2	15

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1006	Business English	3		3
5009	Typewriting 2	5		3
5017	Business Calculating Machines	3		3
4008	Sociology 1 or Elective	3		3
5132	Intro. to Machine Transcription	3		3
		17		15

COURT STENOGRAPHY

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
5008	Typewriting 1	5		3
5120	Machine Shorthand 1	4	4	6
4086	General Psychology	3		3
	Elective	3		3
		18	4	18

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	Composition 2 Intro. to Literature	3		3
3130	Biology of Man	3	3	4
5009	Typewriting 2	5		3
5121	Machine Shorthand 2	4	4	6
		15	7	16

SEMESTER 3

No.	Course Title	Class	Lab	Credits
5048	Business Law 1	3		3
5010	Legal Typewriting	2	3	3
5122	Machine Shorthand 3	4	4	6
5126	Legal Office Practice	3		3
		12	7	15

SEMESTER 4

No.	Course Title	Class	Lab	Credits
	Elective	3		3
1006	Business English	3		3
5036	Legal Dictation & Transcription	4	4	6
5127	Court Reporting Technology	3		3
		13	4	15

EXECUTIVE SECRETARIAL

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
4014	Economics 1	3		3
5008	Typewriting 1 or Gen. Psychology	5		3
4008	Introduction to Sociology 1	3		3
5018	Shorthand 1 or 5062 Skill Build.	3	2	4
		17	2	16

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	Composition 2: Intro.to Lit.	3		3
6001	Computer Concepts	3		4
4086	General Psychology	3		3
5009	Typewriting 2	5		3
5019	Shorthand 2	3	2	4
		17	2	17

SEMESTER 3

No.	Course Title	Class	Lab	Credits
5048	Business Law 1	3		3
5020	Shorthand 3	3	2	4
5022	College Accounting 1	3		3
5011	Executive Typewriting 1	2	3	3
5016	Secretarial Practice 1	3		3
		14	5	16

SEMESTER 4

No.	Course Title	Class	Lab	Credits
1006	Business English	3		3
5017	Bus. Calculating Machines (Elect)*	3		3
5021	Exec/Tech Dictation and Trans.	4	4	6
5049	Business Law 2*	3		3
5038	College Accounting 2 (Elective)*	3		3
5039	Machine Transcription (Elective)*	3		3
5050	Principles of Management (Elective)*	3		3
*Choose 2		13	4	15

LEGAL SECRETARIAL

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
4014	Economics 1	3		3
4008	Introduction to Sociology 1	3		3
5018	Shorthand 1 or 5062 Skill Build.	3	2	4
5008	Typewriting 1 or Gen. Psych.	5		3
		17	2	16

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	Composition 2: Intro. to Literature	3		3
6001	Computer Concepts	3		3
4086	General Psychology	3		3
5009	Typewriting 2	5		3
5019	Shorthand 2	3	2	4
		17	2	16

SEMESTER 3

No.	Course Title	Class	Lab	Credits
5022	College Accounting 1	3		3
5048	Business Law 1	3		3
5010	Legal Typewriting	2	3	3
5020	Shorthand 3	3	2	4
5126	Legal Office Prac.	3		3
		14	5	16

SEMESTER 4

No.	Course Title	Class	Lab	Credits
1006	Business English	3		3
5017	Bus. Calculating Machines (Elect)*	3		3
5038	College Accounting 2 (Elective)*	3		3
5036	Legal Dictation and Transcription	4	4	6
5049	Business Law 2	3		3
5039	Machine Transcription (Elective)*	3		3
5050	Principles of Management*	3		3
		13	4	15

*Choose 1

MEDICAL SECRETARIAL

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
5008	Typewriting 1	5		3
5018	Shorthand 1 or Skill Building	3	2	4
3077	Human Biology 1	3	2	4
7044	Med. Asstg. Tech. for Secretaries 1	3	2	4
		17	6	18

SEMESTER 2

No.	Course Title	Class	Lab	Credits
5019	Shorthand 2	3	2	4
5009	Typewriting 2	5		3
7045	Med. Asstg. Tech. for Secretaries 2	3	2	4
1005	Composition 2: Intro. to Literature	3		3
3078	Human Biology 2	3	2	4
		17	6	18

SEMESTER 3

No.	Course Title	Class	Lab	Credits
5033	Medical Secretarial Typewriting	2	3	3
4086	General Psychology	3		3
5013	Medical Shorthand	3	2	4
5014	Medical Office Practice 1	3		3
5031	Medical Law and Ethics	1		1
		12	5	14

SEMESTER 4

No.	Course Title	Class	Lab	Credits
1006	Business English	3		3
5005	Medical Accounting	3		3
5015	Medical Office Practice 2	3		3
5034	Med. Dict. & Transcription	4	4	6
		13	4	15

2011 - BUSINESS MATHEMATICS 3 credits

This course seeks to give students an understanding and application of mathematical concepts as they relate to business activities and increased competency in the fundamental mathematical and arithmetic skills. Emphasis is placed upon learning mathematical concepts through practical application in business situations. The explanations of business procedures, terminology and original documents aid in promoting understanding and reasoning. Since skill building is very important, the text materials and assignments provide a balance between business applications and skill development. The course meets three hours per week. *Offered Fall Semester*

5005 - MEDICAL ACCOUNTING 3 credits

This course gives instruction and practice in the fundamental principles of professional accounting covering daily record keeping; the theory of debits and credits; classification of accounts; journalizing; preparation of financial statements; use of the trial balance; and technical procedures involved in closing the operating accounts of a single proprietorship in professional business. A definite effort is made to correlate the work to that of a medical situation. The course meets three hours per week. *Offered Fall and Spring*

5008 - TYPEWRITING 1 3 credits

A foundation course in which current typewriting techniques, skill and accuracy are stressed. Timed writing for 3 minutes are introduced. The student becomes familiar with centering, manuscripts, tabulations and block letter style. Class drills and projects aid in individual progress. The minimum speed requirement for the course is 30 words per minute for three minutes with three or less errors for beginners. The course meets five hours per week. *Offered Fall Semester*

5009 - TYPEWRITING 2 3 credits

This course is a continuation of 5008 or its equivalent with continued development of speed and accuracy together with a thorough mastery of all letter styles, interoffice correspondence, addressing envelopes, rough draft materials and tabulation. The minimum requirement for this course is 40 words per minute for five minutes with five or less errors. The course meets five hours per week. PREREQUISITE: 5008 or equivalent. *Offered Spring Semester*

5010 - LEGAL TYPEWRITING 3 credits

This course is designed specifically for the legal secretary. Stress is placed on building speed and accuracy in the production of legal documents and correspondence. Legal vocabulary and punctuation are emphasized through project work. The student is introduced to the IBM Executive proportional spacing typewriter. After learning the various features of the machine, legal documents are produced on it. PREREQUISITE: 5009; typing speed of 40 words per minute for 5 minutes. *Offered Fall Semester*

5011 - EXECUTIVE TYPEWRITING 3 credits

This course is designed for the executive secretary where difficult materials in manuscripts, statistical, letter, and rough draft typing present a challenge in problem solving for the student. Speed and accuracy are developed through daily production of these materials, and typing stamina is further built and maintained by the use of 40-minute production tests. Instruction on the IBM Executive typewriter in included. The course meets five hours per week. PREREQUISITE: 5009; a minimum speed of 40 words per minute for five minutes with five errors or less. *Offered Fall Semester*

5012 - MEDICAL TYPEWRITING 3 credits

This course is designed specifically for the medical assistant. Emphasis is placed on the understanding and production of medical forms, insurance forms, case histories, discharge summaries, medical reports, and medical correspondence. Typing stamina is built and maintained through five-minute timed writings using medical material. Minimum typing speed is 50 w.p.m. for five minutes. The course meets five hours per week. PREREQUISITE: 5008 or equivalent. *Offered Spring Semester*

5013 - MEDICAL SHORTHAND 4 credits

This is a comprehensive medical shorthand skill-building course. Emphasis is placed on the mastery of the shorthand outlines for the commonly used medical terms with particular attention to the medical prefixes and suffixes. The student not only masters the shorthand outlines but must also become thoroughly familiar with the spelling and meaning of medical nomenclature. The course meets five hours per week. PREREQUISITE: 5009 and 5019. *Offered Fall Semester*

5014 - MEDICAL OFFICE PRACTICE 1 3 credits

This course is designed to familiarize the student with the routine business skills pertinent to the medical office. This course includes the development of reception room procedures, telephone techniques, filing and various other medical office assistant duties. The course meets three hours per week. PREREQUISITE: 5009 or 5012. *Offered Fall Semester*

5015 - MEDICAL OFFICE PRACTICE 2 3 credits
This course is a continuation of Medical Office Practice 1 with an introduction to the operation of a variety of office machines, including electronic calculators, IBM Executive typewriters, transcribing equipment, and duplicating and copying equipment used in the medical office. Emphasis will be placed on the training of medical secretaries using medical dictation for machine transcription. This course meets three hours per week. PREREQUISITE: 5033 or 5012 or equivalent and 5014. *Offered Spring Semester*

5016 - SECRETARIAL PRACTICE 1 3 credits
This course gives the student instruction and practice in a variety of secretarial skills including the duties of the receptionist, telephone techniques, filing procedures, handling confidential matters, conferences and itineraries. Through the use of simulated office situations, the student develops initiative and decision-making abilities essential to top-level secretarial positions. The course meets three hours per week. PREREQUISITE: 5009. *Offered Fall Semester*

5017 - BUSINESS CALCULATING MACHINES 3 credits
This course gives the student instruction and practice in a variety of business calculating machines commonly found in business offices. The application of basic mathematical principles in solving business problems is stressed.
Offered Spring Semester

5018 - SHORTHAND 1 4 credits
In this course emphasis is placed on the mastery of the principles of College Gregg Shorthand, Diamond Jubilee Series, with particular attention to penmanship, vocabulary, spelling and punctuation. The mastery of the principles and the building of vocabulary are developed through reading and writing shorthand. The minimum requirement for the course is 60 words per minute for two minutes on familiar material with 95 percent accuracy. The course meets five hours per week.
Offered Fall Semester

5019 - SHORTHAND 2 4 credits
This course continues with the refinement of the principles of College Gregg Shorthand with further emphasis on penmanship, vocabulary, spelling, and punctuation. Emphasis is placed on the development of speed and accuracy in taking dictation. Expert shortcuts are presented. The minimum requirement for the course is 70 words per minute for three minutes on new material with 95 percent accuracy. The course meets five hours per week. PREREQUISITE: 5018 or 5062, 5008. *Offered Spring Semester*

5020 - SHORTHAND 3 4 credits
This course stresses the development of speed with continued emphasis on vocabulary, spelling, and shortcuts. Students receive dictation pertinent to the various departments of a large business organization. The minimum requirement for the course is 80 words per minute for five minutes with at least 95 percent accuracy. The course meets five hours per week. PREREQUISITE: 5019, 5009. *Offered Fall Semester*

5021 - EXECUTIVE DICTATION AND TRANSCRIPTION 6 credits
This course is designed to develop the student's ability to take dictation at high rates of speed and to transcribe rapidly and accurately. No credit is given unless the transcript is mailable. Shorthand theory, punctuation, spelling, and vocabulary are stressed throughout the course. The course meets eight hours per week. PREREQUISITES: 5020 and 5011.
Offered Spring Semester

5031 - MEDICAL LAW & ETHICS 1 credit
The application of law in real world situations encountered by medical personnel. Responsibilities and liabilities of health providers are balanced against the rights and expectations of patients. Traditional ethical questions are explored together with those arising coincident with changing medical practices and public attitudes. *Offered Fall and Spring*

5033 - MEDICAL SECRETARIAL TYPING 3 credits
This course is designed specifically for the medical secretary. This production typing course concentrates on understanding and accuracy in typing medical forms, reports, progress notes, case histories, and correspondence. Typing stamina is built and maintained through five minute timed writing using medical material. This course meets five hours per week. PREREQUISITE: 5009; typing speed of 40 words per minute for 5 minutes. *Offered Fall Semester*

5034 - MEDICAL DICTATION AND TRANSCRIPTION 6 credits
This course is a continuation of Medical Shorthand with further development of shorthand characters for medical terms, as well as a mastery of the spelling, meaning, and pronunciation. The student develops the ability to take dictation of materials pertinent to the medical field and to transcribe with speed and accuracy. The course meets eight hours per week. PREREQUISITE: 5013, 5033.
Offered Spring Semester

5036 - LEGAL DICTATION AND TRANSCRIPTION 6 credits
This course is designed to develop the student's ability to take dictation of legal material and to transcribe with speed and accuracy. Legal terminology, grammar, spelling, punctuation, capitalization, proofreading, and the use of reference material will be stressed. The Massachusetts Rules of Court will be followed. No credit is given unless the transcript is mailable. The course meets eight hours a week. PREREQUISITE: 5020 or 5122, 5010. *Offered Spring Semester*

5039 - MACHINE DICTATION AND TRANSCRIPTION 3 credits
This course emphasizes the technique and operation of machine transcription equipment. Transcription skills will be acquired through the use of a wide variety of business related dictation. Emphasis is on mailable transcripts. Grammar, spelling, punctuation, capitalization, proofreading, and the use of reference material will be stressed. The relationship of machine transcription to the word-processing concept will also be introduced. The course meets three hours a week. PREREQUISITE: 5008. *Offered Spring Semester*

5062 - SKILL BUILDING 4 credits
This course is designed for the student who has had some experience with shorthand but does not feel secure enough to proceed with Shorthand 2. The course will include a thorough review of College Gregg Shorthand principles. Emphasis will be placed upon the development of speed and accuracy in taking

dictation in conjunction with spelling, punctuation and vocabulary. The minimum requirement for the course will be 70 words per minute for two minutes with 95 percent accuracy. The course meets five hours per week.

Offered Fall Semester

5132 - INTRODUCTION TO MACHINE TRANSCRIPTION 3 credits

This course is an introduction to basic transcription equipment techniques with emphasis on spelling, grammar, punctuation, number usage, and capitalization. An English kit is used in conjunction with the pre-recorded cassettes. Students will be expected to produce mailable letters. PREREQUISITE: Typing 5008 or 5908.

5130 - INTRODUCTION TO WORD PROCESSING 3 credits

Introduction to Word Processing is a one-semester course which will prepare the student for production of mailable business communications in machine transcription and word processing courses.

The course emphasizes the basic principles of typewriting style and word division, punctuation style, spelling improvement, capitalization, number, and abbreviation styles, and proofreading.

Weekly testing sheets and achievement tests will be administered upon completion of each area of emphasis.

5120 - MACHINE SHORTHAND 1 6 credits

This course will enable the student to gain a mastery of the basic machine shorthand theory. Emphasis will be placed on stroking technique and vocabulary development through the reading and writing of shorthand. Machine shorthand tapes correlated with the textbook are used in the development of dictation speed and the reading of notes accurately. The course meets eight hours per week. *Offered Fall Semester*

5121 - MACHINE SHORTHAND 2 6 credits

This course will enable the student to gain a mastery of advanced machine shorthand theory and to develop shorthand and transcription skill on unfamiliar material. The student will develop the ability to separate phonetically unfamiliar words according to machine shorthand theory and to write these words accurately in shorthand. The course meets eight hours per week. PREREQUISITE: 5120, 5008.

Offered Spring Semester

5122 - MACHINE SHORTHAND 3 6 credits

The course is designed to familiarize students with specialized dictation material in the areas of medical, legal, and technical dictation. Dictation material will also include basic question-and-answer material, as well as an introduction to multi-voice dictation. The course meets eight hours per week. PREREQUISITE: 5121, 5009. *Offered Fall Semester*

5123 - CLERICAL OFFICE PROCEDURES 1 credit

In the first half of this course, the student masters the office procedures involved in interpersonal communication, in handling office mail, and in telephone communications. The lessons of the second half are designed to help the student better understand the world of work before intering it with special emphasis on what it offers the employee and expects in return. The slide-tape presentation of the instruction aids in individual progress, and the student masters the required skills at his (her) own pace. *Offered Fall Semester*

5124 - RECORDS MANAGEMENT 1 1 credit

In this course the student learns the office procedures involved in records management and in the alphabetic filing arrangement of personal names and the names of businesses, institutions, and government agencies. Extensive practice is given in indexing and coding and in filing and retrieval of business correspondence from files. The slide-tape presentation of the instruction aids in individual progress, and the student masters the required skills at his (her) own pace.

Offered Fall Semester

5125 - RECORDS MANAGEMENT 2 1 credit

In this course the student completes the study of office procedures involved in records management, with specific emphasis on the numeric, subject, and geographic arrangement of business correspondence and the use of an index, requisitions, outguides, and tickler files. The slide-tape presentation of the instruction aids in individual progress, and the student masters the required skills at his (her) own pace. PREREQUISITE: 5124. *Offered Fall Semester*

5126 - LEGAL OFFICE PRACTICE 3 credits

This course is designed to acquaint the student with the Massachusetts court system, including practices and procedures in the preparation of legal papers and documents. Legal terminology and procedures in the areas of criminal, civil, probate, domestic relations, etc., will be presented. The student will also receive instruction and practice in filing procedures and telephone techniques. Field trips will be arranged, as well as speakers from the courts and legal offices in the greater Springfield area. The course meets three hours per week. PREREQUISITE: 5019 or 5121, 5009.

Offered Fall Semester

5127 - COURT REPORTING TECHNOLOGY 3 credits

The course is designed to familiarize students with the Massachusetts court system, transcript format for district and superior courts, as well as reporting techniques using machine shorthand. Dictation material will include multi-voice courtroom testimony specializing in legal, medical, and technical dictation. As part of the course students will be expected to attend actual cases and take and transcribe complete courtroom testimony. The course meets three hours per week. PREREQUISITE: 5122, 5010.

Offered Spring Semester

5129 - MEDICAL MACHINE TRANSCRIPTION 1 credit

This course is designed to introduce the medical assistant to

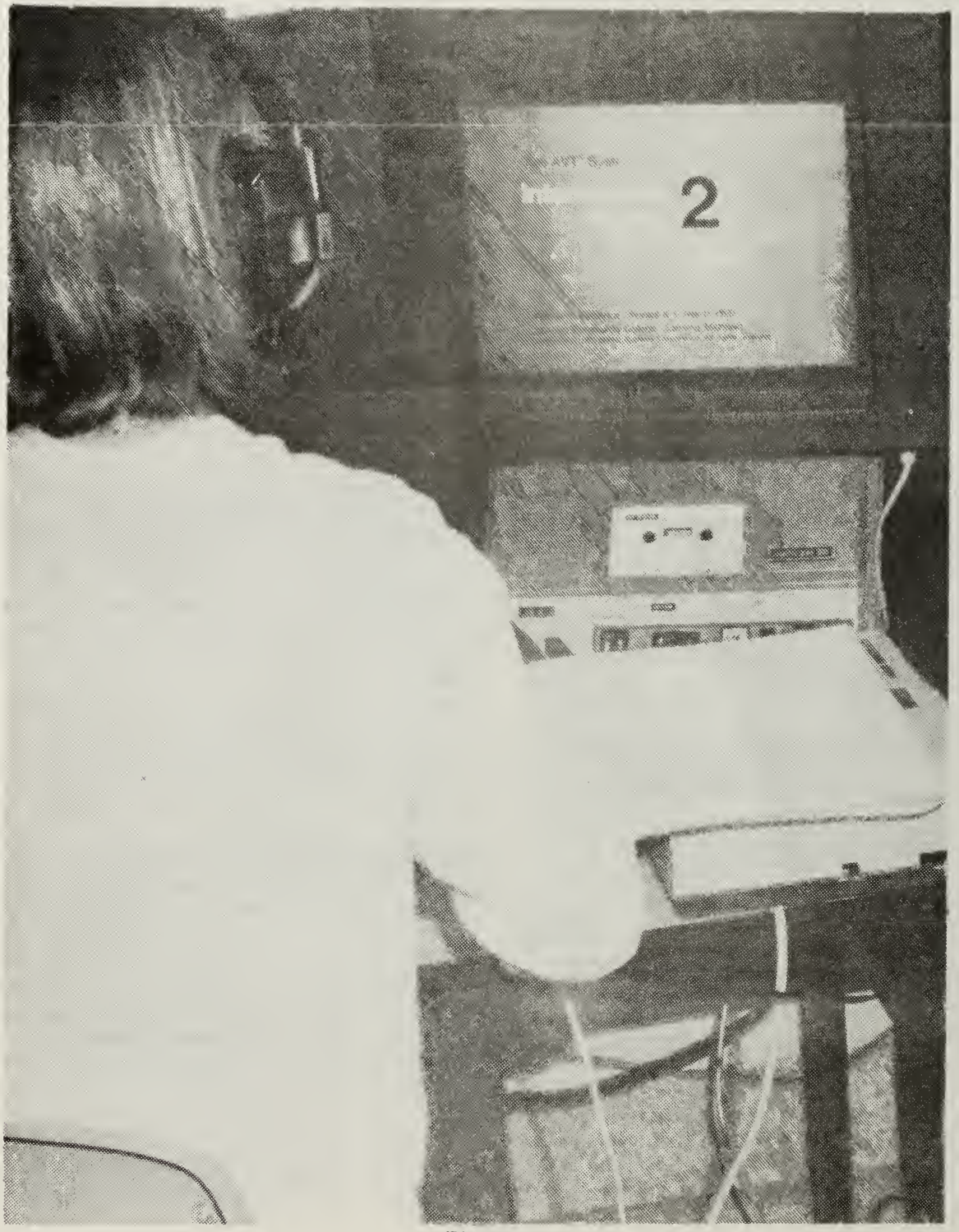
machine transcription. Stress will be placed on skill development and production of accurate medical reports. PREREQUISITE: 5088 and 5012. *Offered Spring Semester*

7044 - MEDICAL ASSISTING TECHNIQUES FOR SECRETARIES 1 4 credits

This course is constructed to prepare the student to become an efficient medical secretary whether it is in a physician's office, hospital or any other agency delivering health care. There are five class hours a week. Two hours will be devoted to lecture, one hour to terminology and two hours to be used for practicing lab procedures. *Offered Fall Semester*

7045 - MEDICAL ASSISTING TECHNIQUES FOR SECRETARIES 2 4 credits

Continuation of advanced theory and terminology. Selected laboratory procedures will include electrocardiogram, cardiopulmonary resuscitation and other first aid procedures. *Offered Spring Semester*



Human & Community Services

COSMETOLOGY

Rapid technological changes have altered the occupational role of the individual employed in the field of cosmetology and have necessitated reappraisal of the training, education and personal qualifications necessary to meet the higher standards of performance presently demanded. To be eligible to take cosmetology, a student must be a high school graduate, 16 years of age or older, with a satisfactory medical report and with sufficient school and character references. Upon successful completion of 1000 hours of training in a 9-month period required by the Massachusetts Board of Cosmetology, the student is ready to take the National Board Examination. To qualify for a license, the cosmetologist must pass an examination in both theory and practice.

Cosmetologists provide a variety of beauty services, most of which are related to the care of hair. They shampoo, cut, set, style, straighten, bleach and tint hair and give permanent waves. They also may give manicures, scalp and facial treatments, provide make-up analysis, shape eyebrows, chemical relaxing and thermal waving.

Minimum Grade Requirement: Practical work, tests and examinations for graduation: "C." Students must complete 1000 hours of work within nine months with a grade of "C" or better for the State Board review. Upon the successful completion of this program, a Certificate in Cosmetology will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
5028	Beauty Salon Management	3		3
7050	Principles of Cosmetology Theory	3		3
7051	Fund. of Applied Cosmetology 1	1	12	5
7052	Fund. of Applied Cosmetology 2	1	12	5
		8	24	16

SEMESTER 2

No.	Course Title	Class	Lab	Credits
4073	Human Relations at Work 3	3		3
7048	Basic Dermatology	2		2
7055	Supervised Lab Practicum 1	1	12	5
7056	Supervised Lab Practicum 2	1	12	5
		7	24	15

5028 - BEAUTY SALON MANAGEMENT 3 credits

Module 1; Mass. State Board Rules & Regulations.

Module 2; Physical Layout and Decorating of the Beauty Salon.

Module 3; Telephone Techniques, Salesmanship and Record Keeping and Business Ethics. *Offered Fall Semester*

7048 - BASIC DERMATOLOGY 2 credits

Basic knowledge in the classes of diseases, allergies, terminology, primary and secondary lesions, disease of hair, glands and abnormalities of nails. The need for professional cooperation is stressed. *Offered Spring Semester*

7050 - PRINCIPLES OF COSMETOLOGY THEORY 3 credits

An introduction to cosmetic chemistry, anatomy and physiology. *Offered Fall Semester*



7051 - FUNDAMENTALS OF APPLIED COSMETOLOGY 1

one credit per module

7051 - Module 1: Styling Techniques include pincurling, finger waving and roller placement

7051 - Module 2: Permanent Waving includes alkaline and acid waves

7051 - Module 3: Manicuring includes plain and oil manicures, men's manicures, artificial nails, hand and arm massage

7051 - Module 4: Facial Treatments include packs and masks, arching; tabbing; make-up.

7051 - Module 5: Hair Coloring includes rinses, tints, lighterers. *Offered Fall Semester*

7052 - FUNDAMENTALS OF APPLIED COSMETOLOGY 2

one credit per module

7052 - Module 6: Haircutting includes scissor and razor cuts, blow waving and hair thinning.

7052 - Module 7: Hair Relaxing includes chemical hair relaxing and thermal hair straightening.

7052 - Module 8: Thermal Curling and Waving

7052 - Module 9: Scalp and Hair Treatments include shampooing, high frequency electrodes.

7052 - Module 10: Sterilization and Sanitation & Personal Hygiene *Offered Fall Semester*

7055 - SUPERVISED LAB PRACTICUM 5 credits

A continuation of course number 7051. Practical experience is gained as a result of students working on each other and patrons under direct supervision. *Offered Spring Semester*

7056 - SUPERVISED LAB PRACTICUM 2 5 credits

A continuation of course number 7052 involving role-playing by the students in a laboratory setting under direct supervision. *Offered Spring Semester*

EARLY CHILDHOOD EDUCATION

Designed to meet the ever-expanding needs for trained personnel in the field of early learning and child care, the Early Childhood Education Program provides both general education studies and specific skills gained through class and laboratory experiences.

Early Childhood students must earn a 2.0 quality point average (C) for each major course offering within the program. Graduates of the two-year program will be prepared to assist teachers and other professionals in nonpublic, early environments such as infant care centers, family day care homes, group day care centers, nursery schools, private kindergartens, health care agencies, institutions and other schools and organizations offering early learning programs and/or child care services. The trained assistant will play an important role as a supportive member of the professional team involved in the daily care, development and education of the young child. Applicants for admission to this program must be high school graduates or equivalent. The SAT's must be taken. Upon the successful completion of this program, the degree of Associate in Science in Early Childhood Assistant will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
3085	Natural History	3	2	4
7101	Intro. to Early Childhood Ed.	3		3
7102	Child Growth & Development	3		3
8095	Music for Early Childhood Ed.	3		3
7115	Early Childhood Fieldwork 1		3	1
		15	5	17

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	Comp. 2: Intro. to Literature	3		3
4086	General Psychology	3		3
7103	Theories of Learn. & Person. Dev.	3		3
7104	Curriculum for Open Education 1	3	3	4
4008	Introduction to Sociology 1	3		3
7116	Early Childhood Fieldwork 2		6	2
		15	9	18

SEMESTER 3

No.	Course Title	Class	Lab	Credits
1007	Fundamentals of Speech	3		3
4009	Social Problems	3		3
7106	Survey of Curr. Early Learn. Prog.	3		3
7107	Obser. and Recording of Child Beh.	1		1
7105	Curr. for Open Education 2	3	3	4
7117	Obser. and Record. Field Study		9	3
		13	12	17

SEMESTER 4

No.	Course Title	Class	Lab	Credits
7112	Child Health and Nutrition	3		3
7109	Supervised Student Practicum		18	6
7110	Seminar and Critique	3		3
8101	Early Childhood Art Education	3		3
		9	18	15

7101 - INTRODUCTION TO EARLY CHILDHOOD EDUCATION 3 credits

Introduction to Early Childhood Education is designed to acquaint the student with the philosophy, history and methodology of early learning programs. Within the scope of the course, students will study the general components of a good early learning program, techniques for improving learning, problems of educational environments, including those of programs for disadvantaged children and parent involvement and the role of the teacher. *Offered Fall Semester*



7102 - CHILD GROWTH AND DEVELOPMENT 3 credits

Provides the student with basic theories and research in growth and development. The course covers study of the individual from conception through early elementary school years in the areas of physical, emotional, social, cognitive, linguistic and personality development. *Offered Fall Semester*

7103 - THEORIES OF LEARNING & PERSONALITY DEVELOPMENT 3 credits

Provides an examination of the cognitive and affective theories of Jean Piaget and Erik Erikson. Also studied are issues in contemporary learning and education. PREREQUISITE: 7102. *Offered Spring Semester*

7104 - CURRICULUM FOR OPEN EDUCATION 1 4 credits

Provides the students with integrated experiences in applied early learning through lecture, discussion and workshops in movement, dramatics, art, science and math. Students are helped to discover their own creative resources. PREREQUISITE: 7101. *Offered Spring Semester*

7105 - CURRICULUM FOR OPEN EDUCATION 2 4 credits

Provides the student with integrated experiences in applied early learning through lecture, discussion and workshops in literature, story-telling, language development, reading and the techniques and uses of audio-visual aids as they enrich the integrated curriculum. The role of the adult in providing early learning experiences that foster self-directiveness and self-expressiveness in children is emphasized. PREREQUISITES: 7101, 7104. *Offered Fall Semester*

7106 - SURVEY OF CURRENT EARLY LEARNING PROGRAMS 3 credits

Offers the student a survey of current programs in the field of early learning and examines their underlying rationale. Emphasis is placed on an eclectic approach to select the appropriate aspects of each program to meet the developmental needs of individual children. PREREQUISITES: 7101, 7102 and 7103.

Offered Fall Semester

7107 - OBSERVATION & RECORDING OF CHILD BEHAVIOR SEMINAR 1 credit

7117 - OBSERVATION & RECORDING FIELD STUDY 3 credits

Provides the student with an opportunity to increase their objectivity and proficiency in observing and interpreting children's behavior. Lecture will comprise 25% of credit time and 75% will be spent rotating among 3 field placements. PREREQUISITE: 7103, 7104. *Offered Fall Semester*

7109 - SUPERVISED STUDENT PRACTICUM 6 credits

Supervised field experience in selected facilities planned in cooperation with community agencies and schools. Placements are for eighteen hours per week: two placements of eight weeks duration each. The Practicum is taken in conjunction with Seminar and Critique, 7110. PREREQUISITE: 7101 and 7107 inclusive. *Offered Spring Semester*

7110 - SEMINAR AND CRITIQUE 3 credits

Provides for systematic evaluation of the total program as it relates to the individual student. Research and discussion center on methods, materials and content of early learning and include the role and responsibilities of professional and semi-professional personnel. Experiences encountered in student practicum placements are the basis for discussion. Taken simultaneously with 7109. PREREQUISITE: 7101 and 7107 inclusive. *Offered Spring Semester*

7112 - CHILD HEALTH & NUTRITION 3 credits

Provides the student with basic information pertaining to development of good health habits in children, childhood diseases, preventive procedures, care of the handicapped child, the various health agencies working with children, human nutrition, the nutritional value of food and the relationship of food habits to the health and education of young children. Safety measures and first aid are also considered.

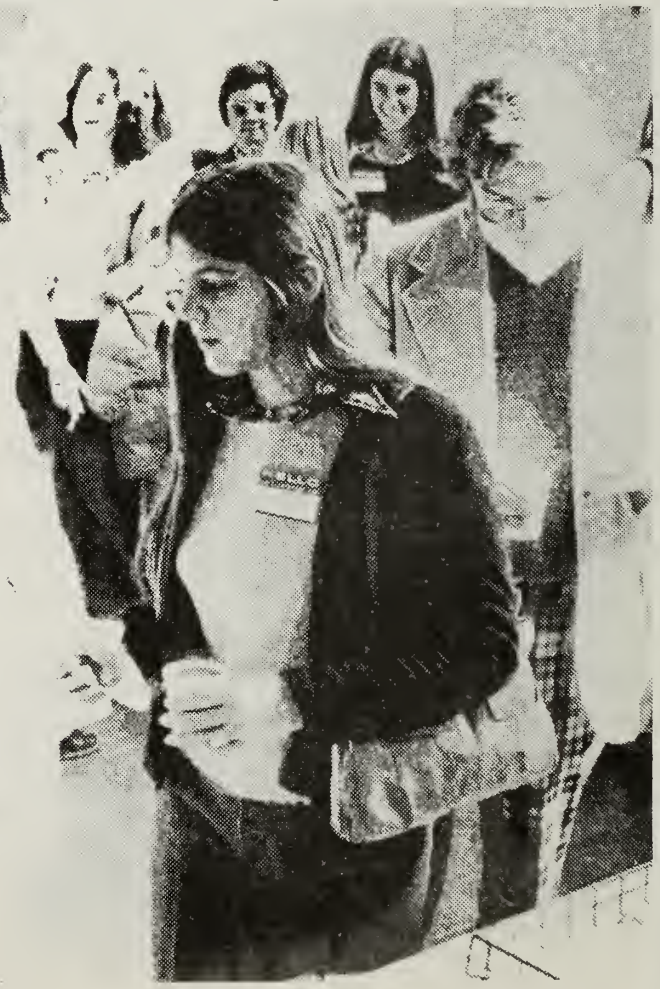
Offered Spring Semester

7115 - FIELD STUDY 1 1 credit

7166 - FIELD STUDY 2 2 credits

Supervised field placements in community agencies and schools during each semester the freshman year in the Early Childhood Education Program.





FIRE PROTECTION & SAFETY TECHNOLOGY

The firefighter's world is a constant challenge of civil strife, chemicals, plastics, and tactical decisions influencing lives, homes, industries, and often the entire economic stability of a community. To cope with these demands, the firefighters need professional training.

This curriculum is designed to provide professional training for students in careers as technicians in fire protection and safety agencies. Careers include opportunities in municipal, state and federal agencies, as well as insurance companies and industries. This program is designed to meet the needs of potential and in-service fire-fighters by providing practical and technical instruction to those who will be serving the greater Pioneer and Connecticut Valley Communities. Upon the successful completion of this program,the degree of Associate in Science in Fire Science will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
	Mathematics 2331, 32, 33	3		3
9770	Introduction to Fire Protection	3		3
9773	Fundamentals of Fire Prevention	3		3
4086	General Psychology	3		3
		15		15

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	English Composition 2	3		3
9775	Building Construction	3		3
9780	Organ. & Mangt. of Fire Depts.	3		3
4008	Sociology 1	3		3
xxxx	Social Science/Humanities Elective	3		3
		15		15

SEMESTER 3

No.	Course Title	Class	Lab	Credits
9774	Fire Hydraulics and Equipment	3		3
9776	Fire Fighting Tactics & Strategy	3		3
9778	Fire Protection Systems	3		3
3002	Chemistry	3	3	4
xxxx	Elective	3		3
		15	3	16

SEMESTER 4

No.	Course Title	Class	Lab	Credits
9504	Hazardous Materials	3		3
9781	Fire Causes and Detection	3		3
9779	Advanced Protection Systems	3		3
3012	Physics	3	3	4
xxxx	Elective	3		3
		15	3	16

9504 - HAZARDOUS MATERIALS 3 credits

This course includes a review of basic chemistry, storage and handling of hazardous materials, laws, standards and fire fighting practices within extreme fire hazard areas. Demonstrations will illustrate and supplement the class work. Required for graduation. PREREQUISITE: Chemistry 1 (3002) and College Algebra (2331-33).*Offered Spring Semester*

9770 - INTRODUCTION TO FIRE PROTECTION 3 credits

This course introduces the philosophy and history of fire protection, history of loss of life and property by fire, review of municipal fire defenses, study of the organization and function of federal, state and private fire protection agencies, and a survey of professional fire protection career opportunities. Required for graduation. Concurrently with Fundamentals of Fire Fighting (9773). *Offered Fall Semester*

9772 - LEGAL ASPECTS OF FIRE PROTECTION 3 credits

A study of legal rights and duties, liability concerns and responsibilities of the fire department organization while carrying out their duties. PREREQUISITE : Introduction to Fire Protection (9770) or Organization and Management of Fire Departments (9780).

9773 - FUNDAMENTALS OF FIRE PREVENTION 3 credits

This course is concerned with the organization and function of fire prevention organization, inspections, surveying and mapping procedures, recognition of fire hazards, engineering a solution of the hazard, enforcement of the solution, and public relations as affected by fire prevention. Required for graduation. PREREQUISITE: Introduction to Fire Protection (9770) or Building Construction (9775). *Offered Fall Semester*

9774 - FIRE HYDRAULICS & EQUIPMENT 3 credits

Course in incompressible fluids including: fluid properties, principles of fluid status, fluid flow system principles, pipe friction and heat loss, flow measurements, pumps, and other hydraulic devices and machinery. Applications are related to fire protection systems such as sprinklers, standpipes, hoses,nozzles, pumpers, and water supply systems. Demonstrations will illustrate and supplement the principles developed in the class. Required for graduation. PREREQUISITES: College Algebra (2331-33).

Offered Fall Semester

9775 - BUILDING CONSTRUCTION 3 credits

Exploration of building construction and design with emphasis focused on fire prptection concerns, review of statutory and suggested guidelines, local, state, and national. Required for graduation. PREREQUISITE: Fundamentals of Fire Prevention (9773). *Offered Spring Semester*

9776 - FIRE FIGHTING TACTICS & STRATEGY 3 credits

This course reviews fire chemistry, equipment and manpower, basic fire-fighting tactics and strategy, methods of attack, preplanning fire problems. Fire situations are presented for analysis and study, consistent with accepted fire-fighting practices. Required for graduation. PREREQUISITE: Fire Hydraulics and Equipment (9774). *Offered Fall Semester*

9778 - FIRE PROTECTION SYSTEMS 3 credits

The detection and extinguishing systems of both automatic and manual types are studied, including sprinkler and standpipe systems, inert gases, foam and dry chemicals, temperature and smoke responsive devices, and alarm and signaling system. Demonstration will illustrate and supplement the class work. Required for graduation. PREREQUISITE: Fundamentals of Fire Prevention (9773).

Offered Fall Semester

9779 - ADVANCED PROTECTION SYSTEMS 3 credits

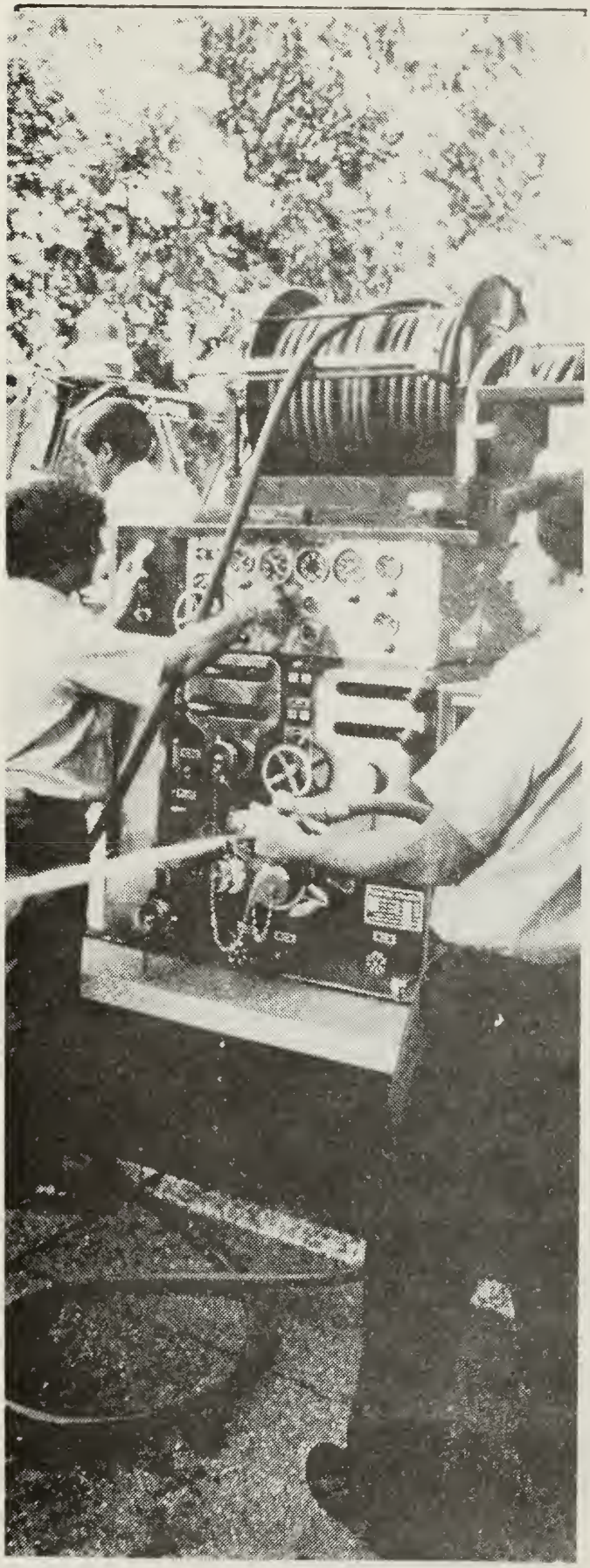
This course is a continuation of 9778, and it is presented for those people interested in advanced fire control systems. Sprinkler systems will be given a great amount of attention in this course. Carbon dioxide, Dry chemicals, Foam systems, Halogen agents will also be discussed. Required for Graduation. PREREQUISITE: Fire Protection Systems (9778). *Offered Spring Semester*

9780 - ORGANIZATION & MANAGEMENT OF FIRE DEPARTMENTS 3 credits

An exploration of organization principles with emphasis on fire department organization; a study of the history, types, methods and principles of fire department organization, both formal and informal, line and staff. Emphasis placed on supervisory responsibilities and functions. Required for graduation. PREREQUISITE: Introduction to Fire Protection (9770). *Offered Spring Semester*

9781 - FIRE CAUSES & DETECTION (ARSON 1) 3 credits

This course concerns the history, development and philosophy of fire investigation and detection, including inspection techniques, gathering evidence and development of technical



reports, fundamentals of arson investigation, processing of criminal evidence and criminal procedures related to various state and local statutes. PREREQUISITE: Fundamentals of Fire Protection (9773). Required for Graduation.

Offered Spring Semester.

CE9782 - EMERGENCY MEDICAL TRAINING 6 credits

This course consists of 81 hours of instruction, practical work and in-hospital observation. It is designed for the person who responds to emergency calls to provide immediate care to the critically ill and injured and transport the patient to a medical facility. It will develop his skill in determining the nature and extent of illness or injury and in establishing priorities for emergency care. It covers such topics as opening and maintaining an airway, cardiac resuscitation, controlling of hemorrhage, treatment of shock, immobilization of fractures, assisting in childbirth, management of mentally disturbed patients as well as light rescue skills and extrication from entrapment.

9784 - FIRE CODES AND ORDINANCES 3 credits

A study of the history and development of codes which influence the field of fire prevention. Emphasis is placed on the nature and scope of legal statutes and related codes in fire prevention and control. PREREQUISITE: Building Construction (9775).

9785 - PUBLIC, LABOR, & HUMAN RELATIONS

3 credits

This course concerns labor negotiations and relations in general and the fire service in particular stressing competitive behavior. Theories are developed in terms of labor-management relations and problem-solving processes which lend help to identify,enlarge, and act upon the common interests of the parties in municipal or governmental roles. PREREQUISITE: Organization and Management of Fire Departments (9780).

9786 - SPECIAL OCCUPANCY FIRE SYSTEMS

3 credits

A study of the causes of fires, inspection and investigation procedures, and fire prevention. Identification and control of electrical, mechanical, and radioactive hazards are stressed along with industrial safety equipment and practices. PREREQUISITE: Hazardous Materials (9504).

9790 - ARSON 2 3 credits

A continuation of Fires Causes and Detection (Arson). PREREQUISITE: Fire Causes and Protection (9781).

LAW ENFORCEMENT

A criminal justice program is offered for students desiring to develop a career in Law Enforcement. In addition, there is opportunity for in-service police officers who are desirous of improving their knowledge and abilities through study of specific police science courses and various general education subjects.

The objective of this two-year program is to familiarize the student with legal, technical, and practical aspects of police procedures. The ever-increasing crime rate, changing social order, changes in the criminal laws and major court decisions are all factors that have made the law enforcement officers' role one of extreme importance and ever-increasing complexity in modern society. Toward this end, the student will be provided with a strong background in the basic administration of justice as well as a general knowledge of the constitutional safeguards as afforded in the Bill of Rights. This program also includes study in the social science area and a general choice of electives.

In-service personnel may be eligible for federal grants under the Law Enforcement Education Program (LEEP), which began operation in 1969 following passage of the Omnibus Crime Control and Safe Streets Act of 1968. Upon the successful completion of this program, the degree of Associate in Science in Law Enforcement will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
4008	Introduction to Sociology 1	3		3
9754	Criminal Procedures 1	3		3
9761	Introduction to Criminal Justice	3		3
	Elective	3		3
		15		15

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	Composition 2: Intro. to Literature	3		3
4009	Social Problems	3		3
9764	Criminal Procedures 2	3		3
9756	Criminal Evidence	3		3
	Elective	3		3
		15		15

SEMESTER 3

No.	Course Title	Class	Lab	Credits
4086	General Psychology	3		3
4083	American Gov't and Politics	3		3
9753	Criminal Law 1	3		3
9755	Criminal Investigation	3		3
	Elective	3		3
		15		15

SEMESTER 4

No.	Course Title	Class	Lab	Credits
1153	Conversational Spanish	3		3
4087	Prin. of Normal/Abnormal Behavior	3		3
9762	Criminal Law 2	3		3
9769	Law Enforce. Mangt. & Planning	3		3
	Elective	3		3
		15		15

CE9763 - PAROLE, PROBATION & REHABILITATION 3 credits

This course familiarizes the student planning a career in Law Enforcement with laws, rules, and regulations attendant with Probation and Parole and Corrections, as well as with the basic concepts and mechanics of each. The course also examines the organizational structure of Probation, the Parole Board, and the Department of Corrections in Massachusetts. Theories employed in the sentencing and rehabilitation of different



kinds of offenders will be studied, along with an analysis of rehabilitation of the offender in the community versus in penal institutions. Utilization and effectiveness of work-realease programs, half-way houses, and treatment centers for drug offenders and alcoholics will be considered.

9753 - CRIMINAL LAW 1 3 credits

This course explores and examines the substantive law of crimes, including the general and special areas of Criminal Laws. Of special interest is a survey of crimes against the person, crimes against property, parties to crimes, defenses based on justification, and the nature of the criminal act and conduct. Emphasis is placed on analysis of elements of particular crimes, offenses, and punishments through an examination of the statutes and case example. PREREQUISITE: Introduction to Criminal Justice (9761) or permission of the Department Chairman. *Offered Fall Semester*

9754 - CRIMINAL PROCEDURES 1 3 credits

To familiarize the student planning a career in law enforcement with the Constitutional requirements and safeguards attendant throughout the criminal process, from investigation through arrest, interrogation, indictment, trial, and sentencing. Included is an in-depth review of the Bill of Rights and its influence in modern society. Heavy emphasis is

placed on actual case study and a review of recent Supreme Court decisions, especially as related to practical situations and problems confronting Law Enforcement personnel. Selected readings focus on practical application to Constitutional principles to practical situations. PREREQUISITE: Introduction to Criminal Justice (9761) or permission of the Department Chairman. *Offered Fall Semester*

9761 - INTRODUCTION TO CRIMINAL JUSTICE 3 credits
An introduction and basic survey of criminal justice and the court systems, both state and federal. The course explores the concept of bail, the functions and roles of the Judge, Prosecutor, Grand Jury, Defense Attorney, and Public Defenders, and sentencing in the courts. Also examined are the functions and objectives of the Probation Officer and Parole Officer, especially as related to rehabilitation of the offender. The role of the policeman in modern society is discussed and explored in detail. *Offered Fall Semester*

9762 - CRIMINAL LAW 2 3 credits
Continuation of Crinimal Law 1 (9753). PREREQUISITES: Criminal Law 1 (9853) and introduction to Criminal Justice (9761) or permission of Department Chairperson.
Offered Spring Semester

9764 - CRIMINAL PROCEDURES 2 3 credits
Continuation of Criminal Procedures 1 (9754). PREREQUISITES: Criminal Procedures 1 (9754) and Introduction to Criminal Justice (9761) or permission of the Department Chairman. *Offered Spring Semester*

9769 - LAW ENFORCEMENT MANAGEMENT & PLANNING 3 credits
Consideration of police problems at the administrative level, including coordination of all branches of a police department. An evaluation of line, staff, and auxilliary functions and the interrelationship of each. The purpose, need, and scope of planning in the police operation, including staffing, correction of data, and use of data processing. *Offered Spring Semester*

CE before a course number indicates: Continuing Education (offered currently only in the Evening Division).

9755 - CRIMINAL INVESTIGATION 3 credits
An introduction to field investigation, including conduct at the scene of the crime, interviewing and interrogation of witnesses and suspects, the use of informants, and techniques of surveillance. Emphasis is placed on special investigative techniques and on court procedures of the police case.
Offered Fall Semester

9756 - CRIMINAL EVIDENCE 3 credits
An analytical study of the rules of evidence, including such general areas as Relevancy and Materiality, Hearsay Evidence Introduction of Writings, Competency and Privilege, and Parole Evidence rule. Probative matter legally presented at the trial of a criminal case is given special attention. Also examined are rules concerning the admission of evidence in such specific areas as Search and Seizure, Pre-Trial Identifications, admission of confessions, electronic surveillance, presumptions and privileges. PREREQUISITES: Intro. to Criminal Justice (9761) or permission of Department Chairperson. *Offered Spring Semester*

CE 9757 - JUVENILE PROCEDURES 3 credits
This course examines the role of the police in delinquency prevention and the make-up of Youth Service Division within the Police Department. Emphasis is on theory, administration, control, treatment, confinement, community resources, relationships with the public and the juvenile court.

CE 9760 - LAW ENFORCEMENT PHOTOGRAPHY 3 credits
The objective of this course is to give police officers an introduction to photography in law enforcement and police work generally. Various photographic techniques are illustrated in relation to their possible use in several areas of law enforcement. Emphasis is on photography as a valuable tool in law enforcement.

CE9767 - POLICE-COMMUNITY RELATIONS 3 credits
This course will examine the relationship between police and the community they serve. This relationship has often been marked by hostility and lack of confidence in the police, particularly in minority group areas. How this hostility is reflected in day-to-day police operations, recruiting, morale and safety of the individual officer will be examined through the course readings, lectures and discussion. The response of police to these pressures will also be examined.
The problem of police ethics and the role this plays in developing a police image in the community will be explored. What part police-press relations plays in the development of police-community relations will be reviewed through actual police related news stories. The ultimate question of freedom versus authority of the police state versus constitutional democracy will be examined in relationship to the course reading and discussions.

CE3325 - FORENSIC SCIENCE 3 credits
An introductory survey aimed at providing the student with a basic general understanding of the field of forensic science, including procedures commonly employed at a crime scene investigation as well as in the laboratory. In addition this course is aimed at introducing the student to the application of various fields of science; i.e., medicine, pharmacy chemistry, etc., for the purposes of obtaining admissible evidence for use in court trials. In general, the laboratory and scientific process as used in supporting the law enforcemen function is examined. The lecture method is the primary source of instruction together with laboratory experimentation on a limited basis.

MENTAL HEALTH TECHNICIAN

Preparing a generalist to work with professionals in human services, the program emphasizes the importance of the multi-disciplinary team. Qualified personnel, educated in the community college, can help meet manpower needs in a wide range of community services; these include mental health, mental retardation, public health, public welfare, social services, rehabilitation, education, and gerontology. Throughout the program, field work and studies are coordinated with general education courses. Lectures, discussions, seminars, site visits, and rotating supervised practicum in selected community service organizations are combined to make field work and studies a realistic endeavor. Students are afforded opportunities to gain pragmatic experience in agencies providing human services for people of all ages.

Curriculum option is available to prepare bilingual/bicultural generalists. Courses, paralleling those listed below are offered in Spanish. Specific bilingual/bicultural instruction is scheduled on an individual basis.

Minimum Grade Requirement: The Mental Health Student is required to earn a minimum course grade of "C" (73-76%) in each of the following courses: 7017 - Field Work & Studies 1,7018-Field Work & Studies 2; 7019-Field Work & Studies 3; 7020-Field Work & Studies 4; 7021-Seminar and Review 1; 7022-Seminar & Review 2; 7221-Seminar & Review/Lab 1; and 7222-Seminar & Review Lab 2.

A 2.0 or "C" average is required for other courses incorporated in the Mental Health Program. In order to meet this minimum grade requirement, the student is required to attend all scheduled classes and practicum assignments. The student will be presented with a contract stating requirements for each semester. This document is signed mutually by the individual student and the Department Chairperson.

Transfer students, having completed required courses prior to acceptance in the department, are encouraged to take appropriate electives. These schedules are established on an individualized basis, through mutual endeavors of the student, advisor and department chairman. Upon the successful completion of this program, the degree of Associate in Science in Mental Health Technology will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
5008	Typewriting 1	5		3
7017	Field Work & Studies 1	3	3	4
3220	Human Anatomy/Mental Health 1	3		3
4086	General Psychology	3		3
		17	3	16

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	Comp. 2: Intro. to Literature	3		3
1007	Fundamentals of Speech	3		3
4008	Introduction to Sociology 1	3		3
7018	Field Work & Studies 2	3	3	4
3221	Human Anatomy/Mental Health 2	3		3
		15	3	16

SEMESTER 3

No.	Course Title	Class	Lab	Credits
1002	Technical Report Writing	3		3
4085	Child & Developmental Psychology	3		3
4009	Social Problems	3		3
7019	Seminar Field Work & Studies 3		12	4
7021	Seminar & Review 1	3		3
7221	Seminar & Review Lab 1		4	2
		12	16	18

SEMESTER 4

No.	Course Title	Class	Lab	Credits
4014	Economics 1	3		3
7020	Sup. Practicum/Field Work/Stud.4		16	6
4087	Prin. of Normal/Abnormal Behavior	3		3
7022	Seminar & Review 2	3		3
7222	Seminar & Review Lab 2		4	2
		9	20	17

7017 - FIELD WORK & STUDIES 1 4 credits

This course introduces the student to the multi-disciplinary approach currently utulized in the field of human services. Lectures, discussions, and group participation afford the student opportunities to acquire an appreciation of the duties and responsibilities of a prepared generalist. Through direct observation and supervised participation, the student can see theoretical concepts applied in practical situations. PREREQUISITE: Acceptance as Mental Health Technology Major. *Offered Fall Semester*





7018 - FIELD WORK & STUDIES 2 4 credits
Continuing to participate in discussions and small groups on campus, each student is concurrently assigned supervised practicum in a community service agency. Through coordinated participation in academic studies and field work, the student is expected to demonstrate the acquisition of techniques and skills necessary for team membership in human services. Simultaneously the student is afforded opportunities to test personal resources in a supervised setting. PREREQUISITE: 7017. *Offered Spring Semester*

7019 - FIELD WORK & STUDIES 3 4 credits
Assigned to a selected community-based service agency, the student receives intensive practical field work experience Direct supervision is provided by qualified agency personnel. Duties and responsibilities during this affiliation give the student opportunities to function as a member of a team which meets human service needs of community residents. PREREQUISITE: 7017, 7018. Enrollment in 7021, 7221. *Offered Fall Semester*

7020 - FIELD WORK & STUDIES 4 6 credits
Rotating supervised field placement enables the student to continue acquiring practical experience in human service agencies. Duties and responsibilities are increased. Direct supervision and guidance are provided by qualified agency personnel. This enables the student to realistically define his/her choice for future work in human services. PREREQUISITES: 7017, 7018, 7019, 7021, 7221.Enrollment in 7022, 7222. *Offered Spring Semester*

7021 - SEMINAR AND REVIEW 1 3 credits
The focus of this course is the small group. Weekly seminars are held. Students serve as group leaders and participants. Through direct experience, the student becomes aware of the dynamics present in small group interaction as well as the planning essential for productive group work. Vido techniques are an integral part of the course. Two sections must be attended weekly. PREREQUISITES: 7017, 7018. Enrollment in 7019, 7221. *Offered Fall Semester*

7022 - SEMINAR AND REVIEW 2 3 credits
Continuation of small group work as described in Course No. 7021. PREREQUISITE: 7017, 7018, 7019, 7020, 7221. Enrollment in 7020, 7222. *Offered Spring Semester*

7221 - SEMINAR AND REVIEW/LAB 1 2 credits
This course facilitates field application of theory. Discussions and lectures are coordinated to maintain relevancy of content. The students shares individual practicum experiences through role playing and field similations. Communication techniques are emphasized. Instruction in the effective utilization of audio-visual equipment in community services is provided. Preparation for employment interviewing, community education program planning, and advocacy are included in this laboratory. PREREQUISITES: 7017, 7018. Enrollment in 7019. 7021. *Offered Fall Semester*

7222 - SEMINAR & REVIEW/LAB 2 2 credits
Continuation of 7221. PREREQUISITE: 7017, 7018, 7019, 7021, 7221. Enrollment in 7020, 7022. *Offered Spring Semester*

OCCUPATIONAL SAFETY & HEALTH TECH.

Offered 1978-79 through the Division of Continuing Education.

In 1970 the United States Congress enacted the Occupational Safety and Health Act. The primary emphasis of the Act is to provide for the safety and health of the worker. The implementation of the mandate requires the following: improve existing safety and health programs; establish employer/employee responsibility; authorize the Occupational Safety and Health Administration to set safety and health standards; encourage individual states to assume responsibilities and provide for reporting procedures.

STCC's Associate in Science in Occupational Safety and Health Technology Program focuses on managerial, supervision and employee training. Included is analysis of safety and health problems, recognition of potential hazards and the development of programs to carry out the firm's commitment to the safety and health of its personnel.

A strong emphasis is placed on an understanding of management methods and their relationships to safety; leadership by the employees; safety and healthful working conditions and safe work practices by employees.

Included in the four semester program are electives that must be chosen in related technology courses. It is important to seek a faculty advisor when selecting courses in order that the student follows a course of study best suited to his goals.

Upon the successful completion of this program, the degree of Associate in Science in Occupational Safety and Health Technology will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
9509	Intro. to Industrial Safety	3		3
1004	English Composition 1	3		3
	Math 2331, 32, 33	3		3
3002	Chemistry 1	3	3	4
4073	Human Relations	3		3
		15	3	16

SEMESTER 2

No.	Course Title	Class	Lab	Credits
9510	O.S.H.T. 1	3		3
1008	Technical Report Writing	3		3
4093	Intro. to Industrial Psychology	3		3
9504	Hazardous Materials	3		3
9513	Industrial Hygiene Familiarization 1	3	3	4
		15	3	16

SEMESTER 3

No.	Course Title	Class	Lab	Credits
9511	O.S.H.T. 2	3		3
3112	Physics 1	3	3	4
5050	Principles of Management	3		3
1007	Fundamentals of Speech	3		3
xxxx	Elective - Related Technology	3		3
		15	3	16

SEMESTER 4

No.	Course Title	Class	Lab	Credits
9514	Industrial Hygiene Familiarization 2	3		3
9512	O.S.H.T. 3	3	3	4
2016	Statistics	3		3
xxxx	Elective Related Technology	3		3
xxxx	Elective Related Technology	3		3
		15	3	16

9509 - INTRODUCTION TO INDUSTRIAL SAFETY 3 credits
An introduction to the basic principles and techniques of occupational safety and health. Historical perspectives. A review of the important standards, codes and regulations especially as related to the Occupational Safety and Health Act; with particular emphasis on application of these codes and standards to typical work situations.

9510 - OCCUPATIONAL SAFETY & HEALTH 1 3 credits
Introduction to occupational safety and health hazards associated with mechanical systems, materials handling, electrical systems, chemical processes. Illustrates controls through engineering revision, safeguarding and personal protective equipment. Emphasis placed on recognition, evaluation and control of occupational safety and health hazards. Instrumentation and sampling techniques associated with hazards in these areas will be covered. Field work will supplement theory classes.

9511 - OCCUPATIONAL SAFETY & HEALTH 2 3 credits
Emphasis on occupational safety and health hazards associated with chemical, physical and biological stresses; constraints imposed; control measures through engineering revision, isolation, substitution, ventilation stressed. Instrumentation and sampling techniques associated with hazards in these areas will be covered. Field work will supplement theory classes.

9512 - OCCUPATIONAL SAFETY & HEALTH 3 3 credits
This course introduces the O.S.H.A. student to the basic principles of management as it relates to the safety professional. Compliance costs; workman's comp. costs, fire and liability premiums, etc., will be covered in relation to overall production costs. Psychology, Sociology, Supervisors Training, Systems Safety and Product Liability will also be covered in relationship to the industrial environment. PREREQUISITE: 9510.





Liberal Arts & Sciences

LIBERAL ARTS & SCIENCES

AMERICAN STUDIES

The American Studies program provides an opportunity for the student to pursue a college-level liberal arts education focusing on American culture and society while learning career skills. It is unique as a liberal arts program in that it requires technical/career education courses that will equip the graduate with basic, entry-level job skills.

This program meets the requirements of the Commonwealth Transfer Compact, and thus enables the student to transfer to a State four-year institution should he decide to continue his liberal arts and science education (See Commonwealth Transfer Compact). The program differs from the other liberal arts and science degree programs offered at STCC in that it focuses specifically on American culture, and it structures technical/career courses to meet various occupational opportunities. It differs from our technical programs in that it emphasizes liberal arts disciplines. Our Modern Studies program is similar in nature, but emphasizes the physical, biological, and natural sciences.

The minimum requirement for the degree are 61 college-level credits (20 courses), and a cumulative quality point average of 2.0. The distribution of the credits includes 33 credits as specified by the terms of the Commonwealth Transfer Compact (6 English/Communications, 9 Behavioral/Social Sciences, 9 Mathematics/Science, 9 Humanities/Fine Arts), and the remaining 30 credits include a minimum of 12 in courses leading to occupational skills with a minimum of 12 in a field of concentration.

The basic skills minor could be developed to suit the student and use almost any program selected from the wide variety of STCC's career courses. For example, a student could select: Typing/bookkeeping, Drafting, Machining, Lab Assistant, AV Aide, Medical Office Assistant, Retailing, Real Estate, Small Engine Repair, Graphics, or Telecommunications.

Completion of this program will earn an Associate of Arts Degree in Liberal Arts/American Studies.

(Example of a Typical Course of Study)

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
4008	Introduction to Sociology	3		3
xxxx	Lab Science	3	3	4
4128	Career Planning and Development	3		3
4083	American Government and Politics	3		3
		15	3	16

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1013	American Literature I	3		3
4081	Survey of Early U.S. History	3		3
1006	Business English	3		3
x	Math	3		3
	Typewriting 1	5		3
		17		15

SEMESTER 3

No.	Course Title	Class	Lab	Credits
4	American Literature 2	3		3
xx	Math or Lab Science	3		3
4006	Anthropology	3		3
5023	Accounting 1	5		4
4082	Survey of Modern U.S. History	3		3
		17		16

SEMESTER 4

No.	Course Title	Class	Lab	Credits
4016	Current Economic Problems	3		3
1026	American Studies	3		3
5009	Typewriting 2	5		3
5024	Accounting 2	5		4
1104	Survey of Black Literature	3		3
		19		16

MODERN STUDIES

The Modern Studies program provides an opportunity for the student to pursue a college-level liberal arts education focusing on the physical, biological, and natural sciences, while learning career skills. It is unique as a liberal arts program in that it requires technical/career education courses that will equip the graduate with basic, job entry-level skills.

This program meets the requirements of the Commonwealth Transfer Compact and thus enables the student to transfer to a State four-year institution should he decide to continue his liberal arts and science education (See Commonwealth Transfer Compact). The program differs from other liberal arts and science programs offered at STCC in that it focuses specifically on modern sciences, and it structures technical/career courses to meet various occupational opportunities. It differs from our technical programs in that it emphasizes liberal arts disciplines. Our American Studies program is similar in nature, but emphasizes American culture and society.

The minimum requirement for the degree are 61 college-level credits (20 courses, and a cumulative quality point average of 2.0. The distribution of the credits includes 33 credits as specified by the terms of the Commonwealth Transfer Compact (6 English/Communications, 9 Behavioral/Social Sciences, 9 Mathematics/Science, 9 Humanities/Fine Arts), and the remaining 30 credits include a minimum of 12 in courses leading to occupational skills with a minimum of 12 in a field of concentration.

The basic skills minor could be developed to suit the student and use almost any program selected from the wide variety of STCC's career courses. For example, a student could select: Typing/bookkeeping, Drafting, Machining, Lab Assistant, AV Aide, Medical Office Assistant, Real Estate, Retailing, Small Engine Repair, Graphics, or Telecommunication.

Completion of this program will earn an Associate of Arts Degree in Liberal Arts/Modern Studies.

(Example of a Typical Course of Study)

SEMESTER 1

No.	Course Title	Class	Lab	Credit
1004	English Composition 1	3		
4008	Intro. to Sociology	3		
3010	Physical Science 1	3	3	
2331-33	Math	3		
6160	Architectural Design & Specifications 1	2	3	
		14	6	

SEMESTER 2

No.	Course Title	Class	Lab	Credi
1005	English Composition 2	3		
4086	General Psychology	3		
2311	Physical Science 2	3	3	
6370	Intro. to Alternative Energy Systems	2		
6161	Architectural Design & Specifications 2	3	3	
		14	6	

SEMESTER 3

No.	Course Title	Class	Lab	Credi
4009	Social Problems	3		
4082	Survey of Mod. U.S. History	3		
1008	Technical Report Writing	3		
6371	Solar Energy 1	3		
6173	Construction Materials	3		
		15		

SEMESTER 4

No.	Course Title	Class	Lab	Credi
1010	World Literature 2	3		
4016	Current Economic Problems	3		
4013	Western Civilization 2	3		
6372	Solar Energy 2	2	4	
6042	Heating System Design	3		
		14	6	

GENERAL STUDIES

The General Studies program accommodates students who desire to pursue the Liberal Arts/General Studies degree, as well as students who are undecided about career objectives and seek an exploratory period leading either to a transfer program or an occupational curriculum. Additionally, students who have made a career decision may complete prerequisites for specific programs, improve skills measured by SAT examinations, and generally confirm their commitment to a particular field.

Because career programs require a solid foundation in Science, Mathematics, English, and reading comprehension skills, course assignments in these areas are based on the student's performance in a battery of placement examinations together with the requirements of the program he/she wishes to enter. It must be noted that in some cases, courses may be required as prerequisites for college-level work but are not applicable to the General Studies degree.

For non-English-speaking students, the program provides intensive developmental courses in English as well as transitional course offerings in Mathematics and Biology.

Faculty advisors assist the student in making course selections and in pursuing program objectives. A Student Information Booklet summarizing pertinent information is also available. However, it is the student's responsibility to seek the information required and act upon it.

In order to reflect the priorities of its students and meet their academic needs effectively, the General Studies department offers five curriculum cores:

Core 1 - Transfer: for the student electing to fulfill the requirements of the Commonwealth Transfer Compact (see description on page - 24 of this catalog) and continue his/her education at a four-year college;

Core 2 - Pre-Health: for the student contemplating an application to a program in Health or Nursing;

Core 3 - Pre-Technology: for the student contemplating an application to a program in the Division of Technologies;

Core 4 - Pre-Engineering and Science Transfer: for the student who wishes to prepare for this degree program (see page 128 of this catalog);

Core 5 - Pre-Business, Secretarial or Service (Fire Science, Law Enforcement, Cosmetology): for the student who plans an application to one of these departments at a later date.

In summary, the General Studies program involves the student in a broad range of subjects from major academic areas: English/Communications, Mathematics/Sciences, Humanities/Fine Arts, and Behavioral/Social Sciences. Developmental courses are available and at times required as prerequisites for English speaking and non-English-speaking students alike, while the student is encouraged to explore career programs through electives in the Divisions of Business, Engineering Technologies, Health and Human Services. The course in Career Planning (4128) is recommended, but required of students in the Pre-Health core.

Minimum requirements for the degree of Associate in Arts in Liberal Arts/General Studies:

English/Communications:	
English Composition 1	3 credits
ONE of the following:	
Business English	
English Composition 2	
Journalism	
Speech	
Technical Report Writing	3 credits
Mathematics/Sciences:	
ONE college-level, transferable course in Mathematics	3 credits
ONE college-level, transferable course in the Sciences	4 credits
ONE college-level, transferable course in either Mathematics or Science	3 or 4 credits
Behavioral/Social Sciences:	
Introduction to Sociology (4008)	3 credits
General Psychology (4086)	3 credits
ONE of the following:	
Economics 1	
History OR Political Science elective	3 credits
Humanities/Fine Arts:	
TWO courses selected from:	
Art	
College Theatre	
Foreign Language	
Music	
Philosophy	6 credits
ONE Literature elective	3 credits
General Electives:	
NINE college-level, non-developmental courses selected from the humanities, technologies, business, health sciences, mathematics, natural or social sciences	27 credits

Total of 60 credits required

RECOMMENDED COURSE SEQUENCE

The following course sequence is recommended; however, additional semesters may be required for students whose placement scores and/or high school background indicate a need to complete prerequisites for specific college-level courses.

SEMESTER 1

	1004	English Composition 1 or prerequisite
	4008	Introduction to Sociology
OR	4086	General Psychology
	2076	Contemporary Mathematics
OR	2331	Mathematics (3 modules)
OR		Prerequisite
	One	College-level course in Chemistry
OR		Biology
OR		Physics
OR		Prerequisite for one of the above
	One	Humanities Elective: A course in Art, Foreign Lang.* Music, Philosophy, Theatre

*Students contemplating transfer to a four-year college requiring a foreign language are advised to plan for this requirement. Without high school background in the foreign language, four college semester courses are required.

SEMESTER 2

	One	English/Communications Elective selected from:
	1006	Business English
	1005	English Composition 2
	1016	Journalism
	1007	Speech
	1008	Technical Report Writing
	One	Math or Science Elective
	One	Literature Elective
	4008	Intro. to Sociology
OR	4086	General Psychology
	ONE	General Elective

SEMESTER 3

One	Math or Science Elective
One	Social Science Elective
One	Humanities Elective
Two	General Electives

SEMESTER 4

Five	General Electives

DEVELOPMENTAL COURSES AVAILABLE

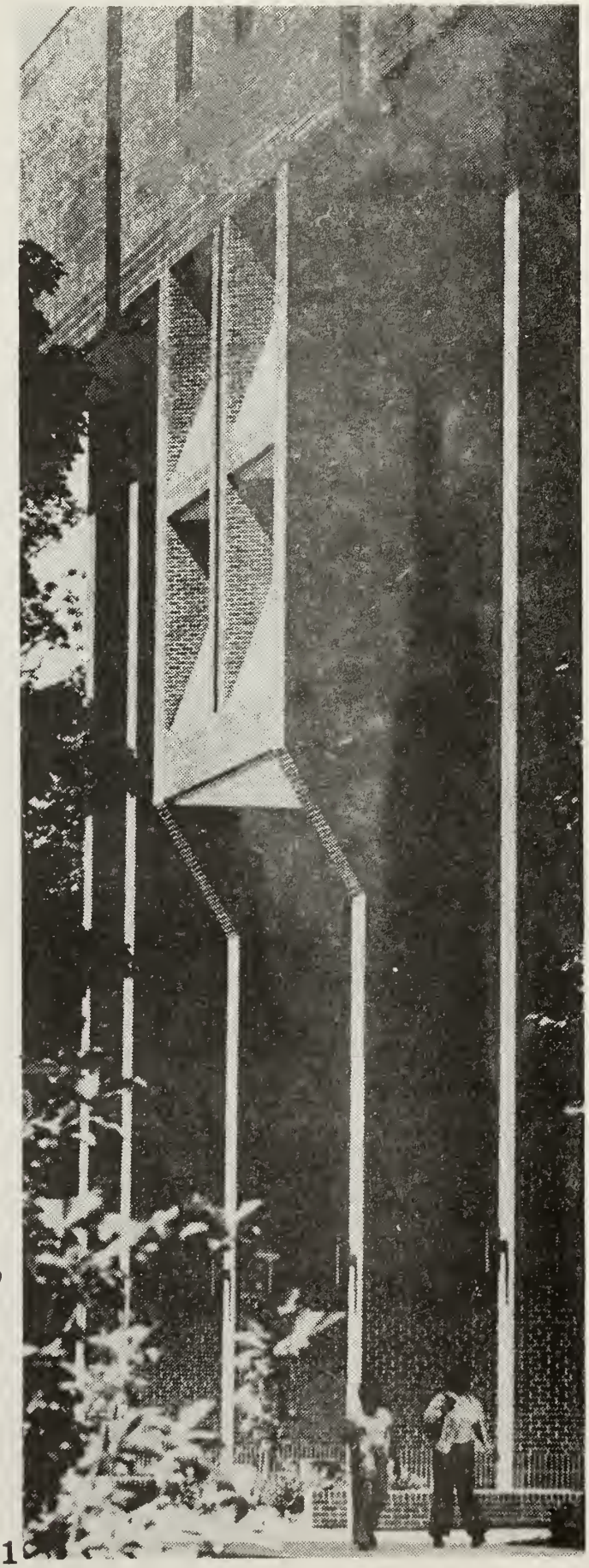
For students in need of developmental studies, the following courses are available and sometimes required as prerequisites for college-level work, however, they cannot be applied as graduation or transfer credit.

1050-1-2	Reading Comprehension and Vocabulary Development
1100	Communication Skills 1
1131-2	English as a Second Language 1 and 2
1112	Study Skills (taught in Spanish)
1115	Basic English Conversational Skills
2301-2-3	Basic Arithmetic
2311-3	Elementary Algebra
2321-3	Mathematics
3033	Basic Science 1: Introduction to Chemistry
3034	Basic Science 2: Introduction to Physics
3099	Basic Science 3: Introduction to Biology

LIBERAL ARTS TRANSFER

The Liberal Arts Transfer curriculum is designed to parallel the first two years of a four-year institution's liberal arts program. It is for students who intend to transfer to a senior college and work toward a Bachelor's degree. The minimum requirements for the degree are 62 semester (20 courses), a minimum cumulative quality point average of 2.0, including six credits of English composition, 15 credits in the humanities, 15 credits in the Social Sciences, and 14 credits in Mathematics and Natural Sciences, as shown below.

The student who successfully completes this program will earn the Associate of Arts Degree in Liberal Arts Transfer.



SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
	History: West. Civ. 1 or Survey of Early U.S. History	3		3
	Foreign language: Elem. Spanish 1, or French 1	3		3
	Math 2080, 2332,2076 or lab science	3		3
4086	Gen. Psychology or Intro. to Sociology	3		3
		15		15

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	English Composition 2	3		3
	History: West. Civ. 2 or Survey of Modern U.S. History	3		3
	Foreign Language: Elem. Span. 2, French 2	3		3
	Math: 2081, 2341, 2077, 2016 or lab science	3		3
4008	Intro. Sociology or Gen. Psychology	3		3
		15		15

SEMESTER 3

No.	Course Title	Class	Lab	Credits
	Literature elective: English Lit, Am. Lit., World Lit., or other lit.	3		3
	Laboratory science	3	3	4
	Foreign language: Inter. Span. 1, French 1,	3		3
1007	Speech	3		3
4014	Principles of Economics, 4083 Am. Govt. and Pol., or math or science elective	3		3
		15	3	16

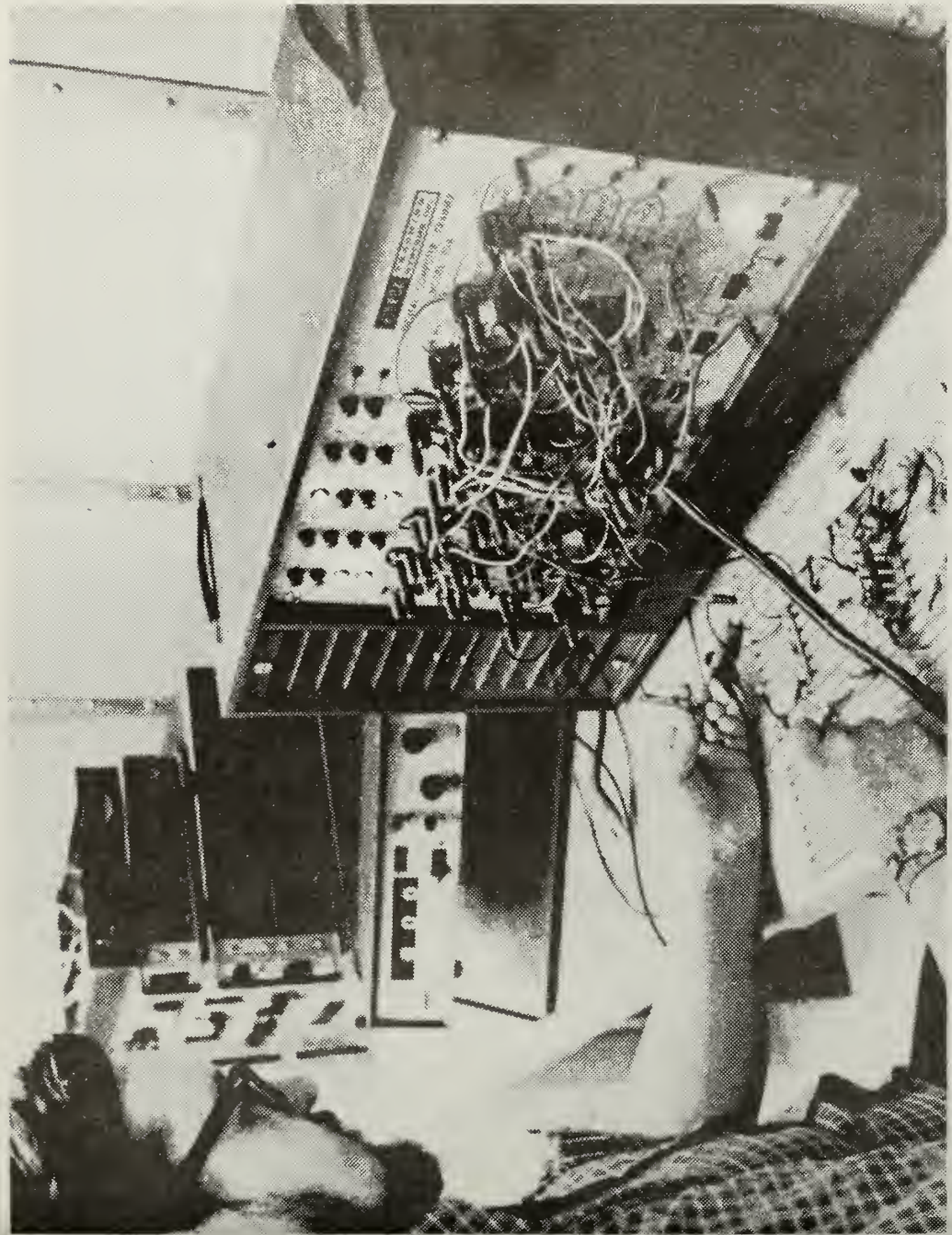
SEMESTER 4

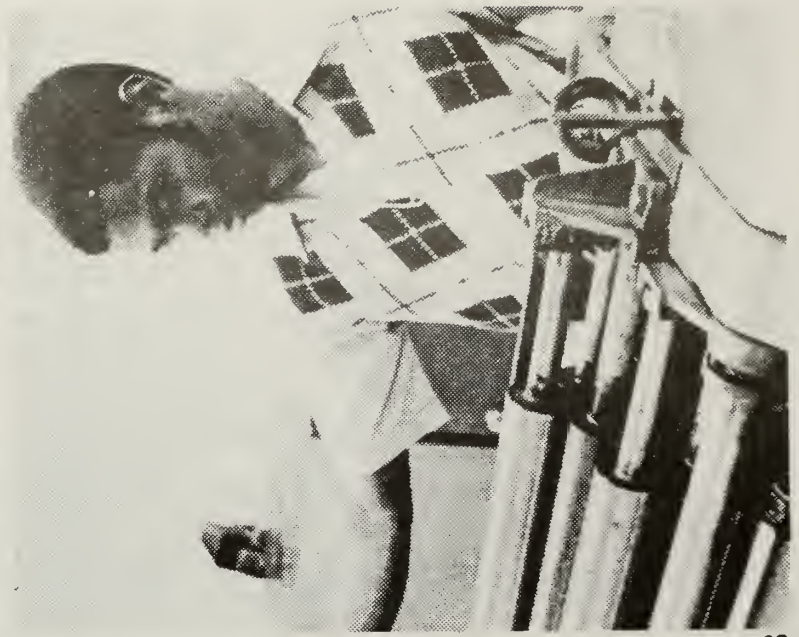
No.	Course Title	Class	Lab	Credits
	Literature elective: Eng. Lit., Am. Lit, World Lit., or other lit. elective	3		3
	Laboratory science	3	3	4
	Foreign language: Inter. Span. 2, French 2	3		3
4083	Amer. Govt. and Politics or Prin. of Economics	3		3
	Humanities, math, science, or social science elective	3		3
		15	3	16
Total Credits				62

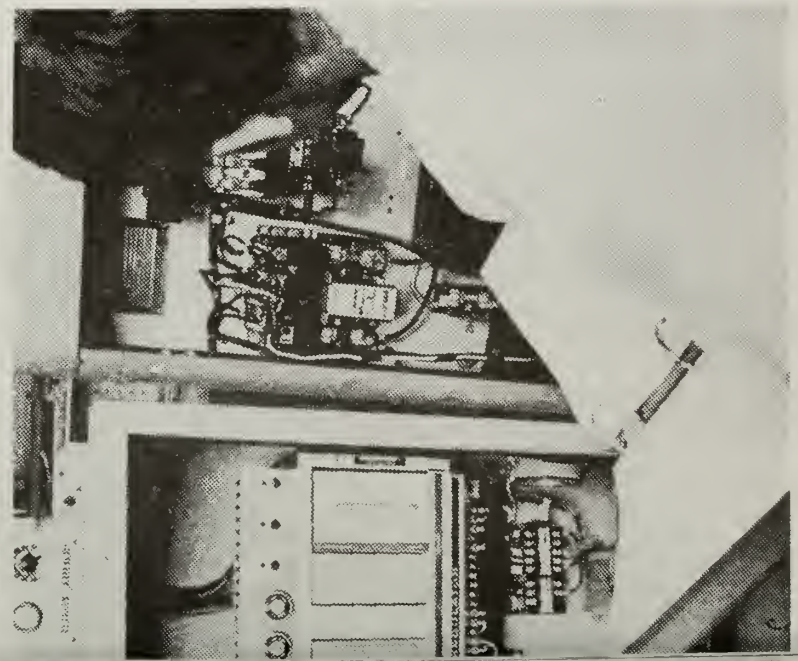
* or Math, Sci., Soc. Sci., humanities elective


CARETON
HOUSE

Engineering Technologies







ADVANCED METAL MACHINING TECHNOLOGY

The advanced metal machining curriculum is designed for persons with basic machine knowledge and experience. Graduates will likely compete for positions well above starting salaries in the machining field. Given fundamental skills, knowledge, job experience and a specially designed, broadly based program, students will receive advanced training for applied skills, technical or supervisory occupations in the metals machine field resulting in higher wages, job advancement and position security while providing increased economic and competitive advantages to his employer and the community. Minimum Grade Requirement: Students in Advanced Metal Machining Technology must receive a grade of "D" or better and a Q.P.A. of 2.0 for graduation. Upon the successful completion of this program, the degree of Associate in Science in Advanced Metal Machining will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credit
1004	English Comp. 1	3		3
	Mathematics 2321-23	3		3
6335	Blue Print Reading	1	3	2
6336	Machining 1	2	9	5
6342	Production Process	3		3
		12	12	16

SEMESTER 2

No.	Course Title	Class	Lab	Credit
1008	Technical Report Writing	3		3
	Mathematics 2331-33	3		3
6268	Mechanisms	3		3
3012	Physics 1	3	3	4
6337	Machining 2	2	9	5
		14	12	18

SEMESTER 3

No.	Course Title	Class	Lab	Credit
4073	Human Relations at Work	3		3
6058	Stength of Materials	4		4
6059	Work Simplification	3	2	4
6064	Industrial Materials	3		3
6338	Machining 3	2	9	5
		15	11	19

SEMESTER 4

No.	Course Title	Class	Lab	Credit
6061	Production Control	4		4
6150	Fluid Power	3	2	4
6339	Machining 4	2	9	5
6340	Specialized Machinery		3	1
6384	Machine Shop Estimating	3		3
		12	14	17

6058 - STRENGTH OF MATERIALS 4 credits

A study of forces and force systems and their applications to materials. Stress and strain produced by the application of forces on beams, columns, trusses and riveted and welded sections are studied for simple tension and shear. Laboratory experiments provide experience in measuring and calculating stresses produced for conditions of tension, compression, shear, bending and torsion. PREREQUISITE: 2331-23.

Offered Fall Semester

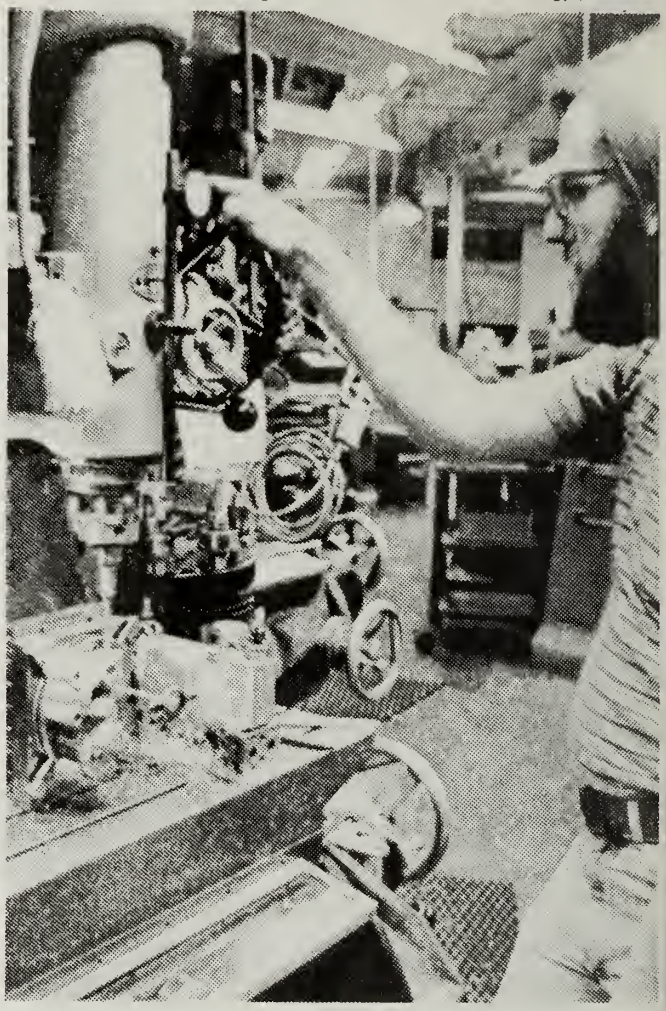
6059 - WORK SIMPLIFICATION 4 credits

A broad approach to the use of motion and time study in industry. The uses of various types of charts and operational processes in general problem solving are developed. Typical problems requiring the application of operational analysis are undertaken. Consideration is also given to the work place, the work area and to human engineering. The problem solving technique of evaluating alternate solutions is stressed.

Offered Fall Semester

6061 - PRODUCTION CONTROL 4 credits

General consideration is given to various phases and elements of production control which are later applied to continuous process companies and typical job shops. Several problem cases serve as a basis for classroom discussion. In addition to a general introduction involving various types of manufacturing plants and their respective products, the course includes a study of the elements that contribute to a successful production control program. Production forecasting, product development, control of materials, routing, scheduling, dispatching and follow-up are studied in sequence in terms of their significance and their relationship to production control. The course is based upon the idea that there is no standard production control procedure applicable to all manufacturing companies, but that there is a correct production control procedure which can be developed for any company, large or small. *Offered Spring Semester*



6064 - INDUSTRIAL MATERIALS 3 credits

An introduction to engineering materials and their properties. Emphasis is placed on the factors which determine material properties and the process by which these properties can be changed in a controlled manner. Materials covered include steel, cast iron, non-ferrous metals and alloys, plastics, rubber and some other non-metallics. *Offered Fall Semester*

6268 - MECHANISMS COURSE 3 credits

The material presented in this course is to acquaint the student with the functions of mechanical theory both graphically and analytically. It defines velocities and accelerations of points, gears, cams and intermittent motion. *Offered Spring Semester*



6335 - BLUE PRINT READING 2 credits
Fundamental theory and practice of blue print reading and tolerance application. *Offered Fall Semester*

6336 - METAL MACHINING 1 5 credits
Student will become familiar with the following: drilling and tapping, boring, counterboring, countersink, spotfacing, reeming, horizontal shaping and filing, hacksaws, powersaws, bandsaws, scales, micrometers, verniers, calipers and combination square. *Offered Fall Semester*

6337 - METAL MACHINING 2 5 credits
Student will become familiar with the following: dial indicators, gage blocks, sinebar, various types of gages, air gages, electric and electronic measuring devices, comparator, use of surface plate, scriber, dividers and center punch. Also slot milling, slab milling, gang milling, form milling, angle milling, step milling and slotting, index head and index table work both horizontal and vertical. *Offered Spring Semester*

6338 - METAL MACHINING 3 5 credits
After one semester's work with metal machining 1 and 2, the use of equipment related to inspection of the workpiece, use of gage blocks, sinebar and other allied equipment, surface finish and control checks. Familiarization with engine lathe work, roughland finish turning, facing, knurling, form turning, threading chuck work both three jaw and four jaw, then grinding of tool bits, drills, O.D. grinding, taper grinding, shoulder and step grinding, flat surface, slots, shoulders, angles and forms. *Offered Fall Semester*

6339 - METAL MACHINING 4 5 credits
The concepts of numeric control principles and application, how to write a program point-to-point method in drilling, milling and contour milling using the flexowriter. More detailed layout using jigs and fixtures also will be studied. Special applications applicable to set-up on machinery also will be studied. *Offered Spring Semester*

6340 - SPECIALIZED MACHINERY (FIELD TRIPS) 1 credit
Theory of planning, boring, honing, broaching, turret lathe, production machinery, abrasives, gears, screws threads, coating and finishing. *Offered Spring Semester*

6342 - PRODUCTION PROCESSES 3 credits
The course is designed to provide the student with knowledge of the various manufacturing processes, castings, forgings, powder metellurgy, plastics, etc, primary working processes, metal shearing forming, welding and allied processes are discussed. Common metal cutting and removal operations are studied, along with speeds, feeds, finishes and tolerances. *Offered Fall Semester*

6384 - MACHINE SHOP ESTIMATION 3 credits
The student will become familiar with the methods associated with costing out an item or assembly. He will also become familiar with not only fixed costs, but the varying costs on overhead, general and administrative and the designed profit level. Break-even costs will also be discussed and analyzed related to a business. *Offered Spring Semester.*

AUTOMOTIVE TECHNOLOGY

The two-year Automotive Technology curriculum consists of practical work experience in inspecting, testing, servicing and repairing cars as well as a study of related technical subjects. A knowledge of basic scientific principles and technical information is emphasized so that students can understand why mechanical and technical difficulties occur. Instruction in management and business operations is included in this program to prepare graduates for junior supervisory positions in the automotive field. Major areas to be covered in the program are: engines, transmissions, differentials, brakes, carburetors, electrical systems and front-end suspensions. The instructional strategies rely on lectures, demonstrations, overhead projectors, slide films, charts, text books and student participation in laboratory assignments in areas being covered.

New large quarters accommodate both classroom and shop labs. A separate engine lab equipped with live engines of the various manufacturers, the latest in electronic testing devices, front-end alignment, tire-truing and wheel-balancing equipment, together with a separate dynomometer lab where vehicles can be run under actual road load conditions and be observed with attached electrical devices. Graduates are prepared for employment as automotive service technicians, service salesmen and managers and many other areas related to the automotive field.

Minimum Grade Requirement: Students in Automotive Technology and the Automotive Collision Technology programs must receive a grade of "D" or better. Attendance is a requirement and is taken into consideration. Upon the successful completion of this program, the degree of Associate in Science in Automotive Technology will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
	Mathematics 2321, 22, 23	3		3
4073	Human Relations at Work 3	3		3
6099	Gasoline Engines Systems	2	2	3
6101	Drive Line	2	2	3
6112	Machine Tool Techniques		3	1
		13	7	16

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	Composition 2: Intro. to Literature	3		3
3002	Chemistry 1	3	3	4
	Mathematics 2331, 32, 33	3		3
6100	Gasoline Engines Service	2	2	3
6102	Auto. Transmissions	2	2	3
6241	Prog. Engineering Graphics Mod.1		3	1
		13	10	17

SEMESTER 3

No.	Course Title	Class	Lab	Credits
3009	Automotive Chemistry	3	3	4
4014	Economics 1	3		3
5022	College Accounting 1	3		3
6105	Fuel & Electric Systems	2	2	3
6103	Brakes	2	2	3
		13	7	16

SEMESTER 4

No.	Course Title	Class	Lab	Credits
1008	Technical Report Writing	3		3
5029	Small Business Management	3		3
3012	Physics 1	3	3	4
6104	Steering and Front Suspension	2	2	3
6106	Engine Diagnosis and Tune-up	2	2	3
		13	7	16

6099 - GASOLINE ENGINE SYSTEMS 3 credits

Nomenclature, design, theory of operation and service. A study of the cooling, lubrication and positive crank case ventilation systems, antifreeze service, filters, seals, gaskets, valves, basic ignition circuits and measurement devices. Meets four times a week.

6100 - GASOLINE ENGINE SERVICE 3 credits

Disassembly and assembly of modern gasoline engines. Includes valves and valve operating mechanisms, pistons and connecting rod assemblies, crankshaft and bearings. Laboratory assignments provide experience in disassembly and reassembly of live lab engines. Students make wear measurements and adjustments according to factory recommended specifications. Meets four times a week.

6101 - DRIVE LINE 3 credits

The function, construction, operation, servicing and trouble shooting of conventional clutch assemblies, standard transmissions, propeller shafts and joints and differentials. Presented through lecture, demonstrations, and student participation in disassembly and reassembly of functional components. Meets four times a week.

6102 - AUTOMATIC TRANSMISSIONS 3 credits

Principles of operation, construction, servicing and trouble shooting. Covers fluid couplings, planetary gears, hydraulic controls, seals and adjustments. Students participate in disassembly and reassembly of selected transmissions along with actual testing and service work in the school laboratory. Meets four times a week.

6103 - BRAKES 3 credits

A study of basic hydraulics, operation and construction of dual master cylinders, wheel cylinders, disc brakes and power units. Instruction in system bleeding, machining of drums, disc and brake shoes are performed using modern service equipment. Student assignments provide actual work and diagnostic problems on cars in the laboratory. Meets four times a week.

6104 - STEERING AND FRONT SUSPENSION 3 credits

A study of steering geometry, linkage, springs, suspension systems, conventional and power steering adjustments and service. Tire wear problems, tire truing, wheel balance and wheel alignment services are done by the student using the very latest equipment. Meets four times a week.

6105 - FUEL AND ELECTRIC SYSTEMS 3 credits

Fundamentals of electricity and magnetism, construction and use of meters, testing and servicing of batteries, A.C. and D.C. generators and control units, starting systems, instruments and horn circuits. Includes a study of basic carburetion principles, fuel-air ratio requirements, venturi principles and basic carburetor circuits. Students participate in disassembly and reassembly of components and perform required bench tests. Meets four times a week.

6106 - ENGINE DIAGNOSIS AND TUNE-UP 3 credits

Covers theory of operation and testing of all components in the ignition system. A study of engine tune-up, exhaust emission devices and diagnosis using modern test procedures. Students participate in bench work and actual service problems using the latest electronic devices and the school's chassis dynomometer lab. Meets four times a week.

6112 - MACHINE TOOL TECHNIQUES 1 credit

Covers industrial safety practices, principles of measuring using semi-precision and precision devices. The development of skills in machining techniques, cutting and hand tool common to assembly and bench work. Familiarization and application of thread series, tolerances, clearances, limits, fits and other mechanical specifications as applied in the interchangability of parts in the automotive industry. Includes lectures, demonstrations and actual laboratory participation by the student.

6241 - PROGRAMMED ENGINEERING GRAPHICS (MODULE 1) 1 credit

Instruments and their use, applied geometry, orthographic drawing and sketching.

BIO-MEDICAL TECHNOLOGY

Instrumentation is being used increasingly in medical, biological and research fields. This equipment has become so complex that technicians must have a detailed knowledge of bio-medical procedures and bio-medical terminology so that proper functioning of the equipment and safety of the patient can be assured.

The program provides the general technical knowledge and understanding of the more commonly used bio-medical instruments, components, systems and circuit techniques.

Minimum Grade Requirement: Bio-Medical Technology students shall maintain a minimum grade of "C"(2.0) for all departmental courses. A grade of "C" or lower will be considered a poor level of performance in any course. Upon the successful completion of this program, the degree of Associate In Science in Bio-Medical be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
	Mathematics 2331, 32, 33	3		3
1004	English	3		3
6019	Basic Electronics 1	3		3
6178	Electronics Lab 1		4	2
6373	Measuring Principles 1	2	3	3
4073	Human Relation at Work	3		3
		14	7	17

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	English 2	3		3
6024	Electronics 2	3		3
6179	Electronics Lab 2		4	2
6035	Semiconductors 1	3		3
3109	Chemistry 1	3	3	4
6374	Measuring Principles 2	2	3	3
2334	Slide Rule or			
2095	Mini Calculator	1		1
		15	10	19

SEMESTER 3

No.	Course Title	Class	Lab	Credits
6375	Calibration and Standardization	1	3	2
1008	Technical Report Writing	3		3
6037	Fund. of Pulse and Digital	3		3
6212	Semiconductor 2	3		3
4014	Economics 1	3		3
6180	Electronics Lab 3		4	2
		13	7	16

SEMESTER 4

No.	Course Title	Class	Lab	Credits
6123	Bio-Medical Electronic System	2	3	3
3077	Human Biology 1	3	3	4
6181	Electronics Lab 4		4	2
6376	Instrumetation Project		6	2
6377	Codes-Laws-Safety	1		1
xxxx	Humanities, Social Science Elect.	3		3
		9	16	15

6019 - BASIC ELECTRONICS 1 3 credits

This course is an introduction to the fundamental concepts of electronics. Coverage includes: concepts of electricity, series and parallel circuits, network theorems and laws and metering principles. The purpose of this course is to present the necessary concepts and ideas which will be needed in more advanced course work about specific electronic systems. Emphasis is placed on the analysis of direct current networks. Specifically, the calculation of such circuit parameters as current, voltage and power for various network configurations.

Offered Fall Semester

6024 - BASIC ELECTRONICS 2 3 credits

The fundamental concepts of alternating current circuits are presented. Starting with a review of direct current theorems and laws, the concepts of alternating currents are introduced using phasor analysis. Some topics covered include: capacitive and inductive reactance, transients, time constants, power and power factor, the j-operator, resonant circuits, circuit Q and bandwidth, filters and switching circuits. PREREQUISITE : 6019. *Offered Spring Semester*

6035 - SEMICONDUCTOR CIRCUITS 1 3 credits

This course is an introduction to the theory of solid-state semiconductor devices. Topics considered in the course include: semiconductor physics, the pn junction diode, tunnel and zener diodes and bipolar transistors. The I V characteristics of these various devices are studied and analyzed, idealized models are considered, circuit biasing techniques are discussed and a comparison of the different transistor circuit configurations is undertaken. PREREQUISITE : 6019. *Offered Spring Semester*

6037 - PULSE AND DIGITAL CIRCUITS 3 credits

The fundamentals applying to nonsimusoidal pulse, timing and switching circuits are presented. The theory is demonstrated by actual measurement and observation and the circuits are analyzed mathematically in detail. Some of the topics covered include: the application of circuit theorems, waveform analysis, integration and differentiation circuits, semiconductors as switches, multivibrators, sawtooth generators and gating and delay circuits.

Offered Fall Semester

6123 - BIO-MED ELECTRONIC SYSTEMS 392 3 credits

An extension of Bio-Med Electronic Systems 391 which will cover such topics as telemetry, including AM and FM modulation, transmission and detection circuits. Also included is an introduction to logic and other simple control circuits. PREREQUISITE: 6019, 6024, 6037. *Offered Spring Semester*

6178 - ELECTRONICS LAB 1 2 credits

This course is the first in a sequence of four courses designed to give the student practical experience with electronic components, measuring instruments and equipment. The emphasis in the laboratory work is on the verification of theory studied in Basic Electronics 1 about direct current networks. Equal emphasis is placed on the familiarization of the student with electronic metering principles, electronic testing procedures and the use of various electronic components commonly found in the electronics industry.

Offered Fall Semester

6179 - ELECTRONICS LAB 2 2 credits

A continuation of Electronics Lab 1, the emphasis in the course is again placed on practical experience. The student receives continued exposure to electronic components, test equipment and circuitry. Now the laboratory work is

concerned with the verification of theory studied in the student's course work on passive networks and active solid-state devices. The student gains experience in the setting up and testing of useful electronic circuits and systems. PREREQUISITES: 6178 with a "C minus" or better.

Offered Spring Semester

6180 - ELECTRONICS LAB 3 2 credits

This course is a continuation of the laboratory experience for students involved in the Electronics Technology curriculum. However, now the emphasis is on material covered in the senior year. The theory learned in the course work is tested in the laboratory by observations of circuits and systems pertinent to those courses. Besides the reinforcement of concepts and ideas germane to the electronics curriculum, the student's proficiency with electronic equipment and test devices is improved and familiarity with practical electronics applications enhanced. PREREQUISITES: 6179 with a "C minus" or better and Senior Standing. *Offered Fall Semester*

6181 - ELECTRONICS LAB 4 2 credits

This course is a continuation of Electronics Lab 3. The course is now concerned with the theory studied in the fourth semester of the electronics curriculum. Again, theoretical concepts are reinforced and practical ability enhanced. PREREQUISITES: 6180 with a "C minus" or better and Senior Standing. *Offered Spring Semester*

6212 - SEMICONDUCTOR CIRCUITS 2 3 credits

This course is a continuation of Semiconductor Circuits 1. The emphasis is now on the use of semiconductor devices as useful active circuit elements. Topics include: amplifiers, cascaded stages, frequency and gain limitations, feedback principles, temperature effects and h-parameters. Considered, also, are field-effect transistors and other special semiconductor devices. PREREQUISITES: Senior Standing and 6035.

Offered Fall Semester

6373 - MEASURING PRINCIPLES 1 3 credits

Measuring principles 1 is a study of the more common sensing elements and components which are mechanical (as opposed to electrical) instruments. The devices studied in this course are those used to measure temperature, pressure, flow, and related phenomena. Fundamental units of measurement should be introduced. Problems involving both regular and S.1 units should be worked.

Study of the fundamental behavior of materials when subjected to stresses provides the basis for understanding instrumental devices which rely upon the measurement of changes in elastic materials - regardless of particular design or application. Emphasis should be placed on how few basic principles are applied - in the wide variety of instruments available - to provide the many responses and readings required for system control.

Attention should be focused on principles underlying instrument construction. The principles do not change, but the design details of instruments based on a particular principle



may change with the development of new materials of the adaption of the instrument to new applications.

Offered Fall Semester

6374 - MEASURING PRINCIPLES 2 3 credits

Measuring Principles 2 is a study of electrical measuring devices and the physical principles governing their design and operation. The fundamentals of electrical circuits and elements are covered first, followed by a study of instruments for measuring the more common quantities. The course then moves to a consideration of more complex measurements for radiation, density, humidity, etc. As in Measuring Principles 1, emphasis should be placed on physical principles of operation and construction. PREREQUISITE: 6373.

Offered Fall Semester

6375 - CALIBRATION AND STANDARDIZATION 2 credits

Calibration and standardization of instruments may constitute one of the most important duties of instrumentation technicians. Consequently, they should be well acquainted with the various types of standards and their applicability to the problem at hand. This course consists of laboratory work so that technicians may become acquainted with the various procedures through actual experience. In addition, organization of the national bureau of standards, basic units of measurements (S1), and reporting of calibration should be reviewed; PREREQUISITES: 6373, 6374.

Offered Fall Semester

6376 - INSTRUMENTATION PROJECT 2 credits

The student is to apply his developed theoretical and practical knowledge into the production of a project meeting course requirements. The student must select and develop an original project of his own choosing with complete paper and physical documentation as required by the project advisor. PREREQUISITE: Senior Standing. *Offered Spring Semester*

6377 - CODES – LAWS AND SAFETY 1 credit

The student is required to become aware of enforcing agencies and their software. He must know the intent and purpose of those standards. In addition there-to he must understand how to be in compliance with regulations. PREREQUISITE: Senior Standing. *Offered Spring Semester*

CIVIL ENGINEERING TECHNOLOGY

The Civil Engineering Technology program is designed to provide an engineering background for persons who wish to enter the building and construction industry as engineering technicians, architectural draftsmen, or as construction managers. Students completing this program should also be able to begin work in the areas of surveying and estimating. The design and construction of residential and light commercial structures are stressed. Certain phases of heavy construction and highway development are also covered.

Students planning to enter this program should have interests in mathematics and science. However, creative ability is also required in the design laboratories involved in this program.

Minimum Grade Requirement: All departmental courses shall be satisfactorily completed. A satisfactory grade shall be defined as one having a letter grade "D" (63 or 1.0 Q.P.A.) or above. Any course failed must be repeated before graduation and each course may be repeated only once. The student must achieve an overall Q.P.A. of 2.0 at the completion of the department course of study. In addition, he must remain in good academic standing as outlined below:

A. At the beginning of the second semester, the student must maintain a 1.5 Q.P.A.

B. At the beginning of the third semester, the student must maintain a 1.7 Q.P.A.

C. At the beginning of the fourth semester, the student must maintain a 1.9 Q.P.A.

Any student not meeting the above academic requirements will be placed on academic probation for one semester. If at the end of this period no improvement has taken place to bring the Q.P.A. to the required academic level, the student will be removed from the program. Each student must complete Math Modules 2331 and 2332 before he or she will be allowed to enter into any of the 6000 series courses in the 2nd, 3rd or 4th semester. Upon the successful completion of this program, the degree of Associate in Science in Civil Engineering will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
	Mathematics 2331, 32, 33	3		3
2334	Slide Rule Math	1		1
6160	Architectural Design & Spec. 1	2	3	3
6173	Construction Materials	3		3
	Humanities Elective	3		3
		15	3	16

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	Composition 2: Intro. to Literature	3		3
	Mathematics 2341, 42, 43, 44	4		4
3012	Physics 1	3	3	4
6161	Architectural Design & Spec. 2	2	3	3
6159	Statics	3		3
		15	6	17

SEMESTER 3

No.	Course Title	Class	Lab	Credits
4014	Economics 1	3		3
6092	Surveying 1	2	6	4
6009	Fortran for Technologies	3		3
6170	Structures 1	3		3
6164	Materials Testing Lab.	1	2	2
6096	Soils & Foundations	3		3
		15	8	18

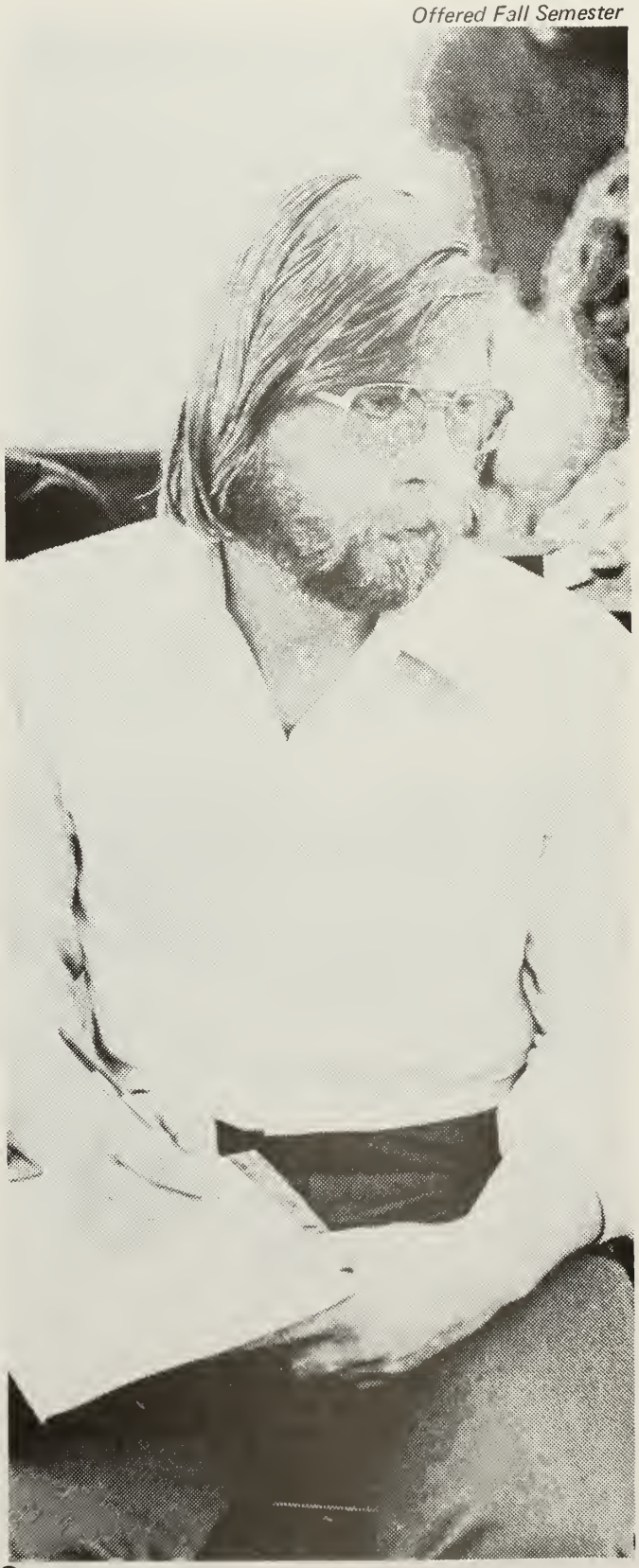
SEMESTER 4

No.	Course Title	Class	Lab	Credits
1008	Technical Report Writing	3		3
6165	Construction Methods & Equip.	3		3
6163	Construction Estimating	2	3	3
6097	Transportation 1	3	3	4
6177	Construction Management	3		3
		14	6	16

6092 - SURVEYING 1 4 credits

The theory and practice of construction surveying. Field practice is given in the use of tape, transit and level and in data recording. Techniques of preparing working plans and maps from recorded data are developed making use of field notebooks. Two lecture hours and 6 lab hours.

Offered Fall Semester



6093 - SURVEYING 721 3 credits
A course teaching the basic surveying operations used in landscape work. The use of simple instruments such as tapes and hand levels is covered first, followed by study of transits and construction levels. Mapping and contour studies are carried out, and the use of surveying in typical landscape operations is stressed. *Offered Fall Semester*

6096 - SOILS AND FOUNDATIONS 3 credits
Analysis of subsoil conditions; bearing capacity and settlement analysis; character of natural soil deposits; earth pressure and retaining wall theory; stability of slopes and subgrades; foundation types and construction methods; and structural design of foundation elements. Three lecture hours.
Offered Fall Semester

6097 - TRANSPORTATION 1 4 credits
Problems in highway design and construction are covered including roadway foundations, material properties of flexible and rigid pavements, structural design of rigid and flexible pavements and pavement subgrade construction. In addition, railway layout and trackbed construction is covered. This course also makes a general survey of other modes on transportation, including mass transportation and air travel. Three lecture hours and three lab hours.

6159 - STATICS 3 credits
A study of forces and force systems in equilibrium and their application to engineering materials. An analysis of the stresses and strains induced in various engineering materials and the corresponding behavioral changes in these materials. The application of forces on beams, columns, trusses and riveted and welded sections are studied in simple tension, compression, shear and bending. Preliminary beam and column design is also studied. Three lecture hours. *Offered Spring Semester*

6160 - ARCHITECTURAL DESIGN & SPECIFICATIONS 1 3 credits
An introduction to architectural and construction-graphic techniques and written specifications. Emphasis is on residential and light commercial and industrial structures. Two class hours and three laboratory hours per week.
Offered Fall Semester

6161 - ARCHITECTURAL DESIGN & SPECIFICATIONS 2 3 credits
A continuation of 6160 with additional emphasis on mechanical and electrical drawings and specifications. Two class hours and three laboratory hours per week. PREREQUISITE: 6160. *Offered Spring Semester*

6163 - CONSTRUCTION ESTIMATING 3 credits
An introduction to estimating and construction office practice to familiarize the student with the construction process as a whole; the ways in which contractors organize their offices to accomplish jobs in construction; the generation of plans and specifications and their use, systems of accounting; and how material quantity "take-off" forms the basis for accounting. Two lecture hours and three laboratory hours.
Offered Spring Semester

6164 - MATERIALS TESTING LAB 1 credit
Classroom theory of soil mechanics and strength of materials is expanded through material testing experiments using laboratory equipment. In addition, field trips to major construction sites enable students to see current construction practices and techniques. Three laboratory hours.
Offered Fall Semester

6165 - CONSTRUCTION METHODS & EQUIPMENT 3 credits
An introductory study of methods to determine quantities of materials, equipment, labor and money required for construction projects. It includes characteristics and capabilities of work equipment; methods of obtaining unit costs of in-place construction; and field reporting practices and responsibilities of field inspection. Three lecture hours.
Offered Spring Semester

6170 - STRUCTURES 1 3 credits
A continuation of the stress and force theories from Statics (6159) is presented as they apply to structural design. The design of structural steel floor, beam and column systems, including indeterminate structures is studied in depth, with particular emphasis placed upon the shearing, bending and deflection stresses induced on wood, steel, aluminum and concrete load carrying members. The second half of this course is devoted to reinforced concrete beam and floor system design, using the ultimate-strength method for the design of reinforced concrete beams, columns, foundations and retaining walls as permitted by the ACI Code. Three lecture hours. PREREQUISITE: Statics (6159). *Offered Fall Semester*

6173 - CONSTRUCTION MATERIALS 3 credits
An introduction to the materials used in the construction industry. Emphasis is placed on their physical properties, methods of production and their construction applications. Materials covered include wood, steel, aluminum, alloys, glass, concrete, plastics, rubber, and others. Three lecture hours.
Offered Fall Semester

6177 - CONSTRUCTION MANAGEMENT 3 credits
A study of specialized business and management topics which are of particular interest to the construction industry. Topics include basic operational patterns, subcontracting procedures, purchasing and expediting, scheduling, change orders, accounting for material and supplies, field labor methods, critical path method and legal matters. Three lecture hours.
Offered Spring Semester

6009 - FORTRAN FOR TECHNOLOGIES 3 credits
This course is designed to offer an introduction to the computer language Fortran. The content of the course will include a brief introduction to the general theory of digital computers as well as Fortran programming. Fortran will be studied as an example of a computer language. Special attention will be placed upon using Fortran as a powerful tool in solving a number of diverse problems drawn from science and engineering. PREREQUISITES: Math (2311-13)
Offered Fall Semester

DRAFTING & DESIGN TECHNOLOGY

The Drafting and Design Program attempts to meet the massive demand for people with basic entry-level skills in drafting. This need will increase with the proposed change to the Metric System. With this one-year certificate program, the student will be equipped to enter industry in such positions as a Drafting and Design Technician.

Minimum Grade Requirements: Students in Drafting and Design Technology must receive a grade of "D" or better. A Q.P.A. of 2.0 must be achieved for graduation.

Upon the successful completion of this program, a Certifiate in Drafting and Design will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credit
1004	English Composition 1	3		3
	Mathematics 2321-23	3		3
1008	Technical Report Writing	3		3
6241-45	Programmed Eng. Graphics		15	5
		9	15	14

SEMESTER 2

No.	Course Title	Class	Lab	Credit
3012	Physics	3	3	4
	Mathematics 2331-33	3		3
6246-49	Programmed Eng. Graphics		12	4
6262	Eng. Graphics 371	1	3	2
6385	Graphics Design Lab	1	3	2
		8	21	15

6385 - GRAPHICS DESIGN LAB 2 credits

The student will have the opportunity to put together all his knowledge obtained on various projects assigned by the instructor. He will do the design and rectify by calculations and computations in relationship to this along with the economical aspects. *Offered Fall and Spring*

6262 - ENGINEERING GRAPHICS 371 1 credit

An introduction to spatial, architecture and machine drawing requirements is provided. These will principally be applied to working drawings, detail drawings, structural shapes and frames. Military specifications and other standards are introduced. *Offered Spring Semester*

6241-6249 - PROGRAMMED ENGINEERING GRAPHICS

1 credit per module

6241 - Module 1, Instruments and their use, applied geometry orthographic drawing and sketching.

6242 - Module 2, Lettering, auxilliaries: Normal and edge views sections and concentions.

6243 - Module 3, Intersections and developments, drawings and the shop working drawings.

6244 - Module 4, Dimensions, notelimits, catalogues.

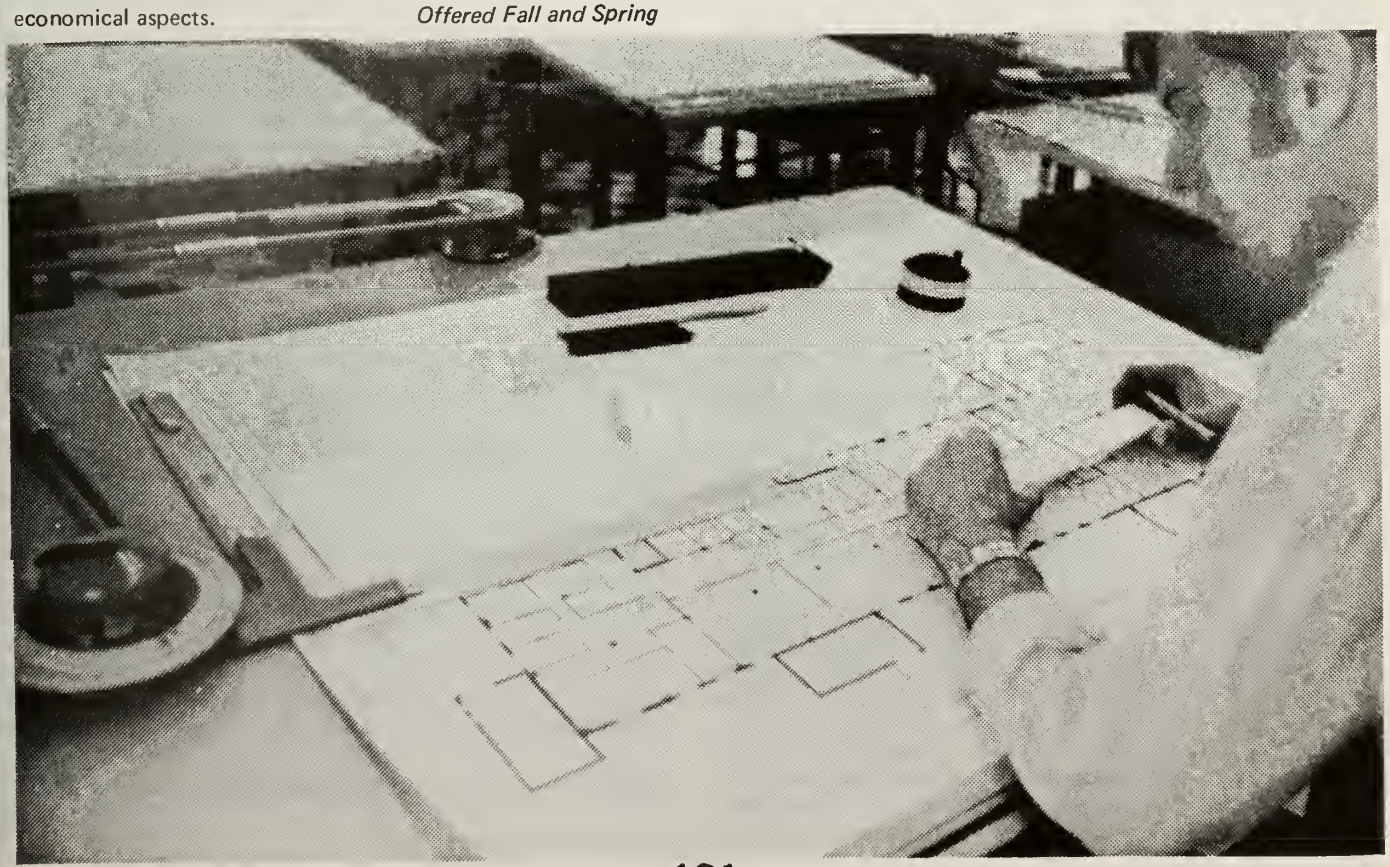
6245 - Module 5, Introduction, electricity and batteries, S-hematics, assembly-dissassembly.

6246 - Module 6, Power distribution graphics: Electrical drafting, contractor drawings.

6247 - Module 7, Electronics graphics: Electrical (electronic drafting), system design, special equipment.

6248 - Module 8, Architectural graphics: Oblique drawings, drawing of structures graphical vector analysis.

6249 - Module 9, Perspective drawings, shapes and shadows presentation drawings.



ELECTRICAL TECHNOLOGY

The Electrical Technology program prepares students for work in the development, installation and maintenance of industrial automated systems or related instrumentation applications. Graduates of the program have also been successful as field representatives for manufacturers in the areas of product application and sales.

Students planning to enter this field should have a desire for achievement and involvement in mathematics, science and technology.

Minimum Grade Requirement: All 6000 series Electrical Technology courses must be successfully completed with a grade of "D" or better for graduation. These Electrical Technology courses must be taken in a sequential order. That is, second semester courses cannot be taken until the first semester prerequisite courses are successfully completed as outlined in the Electrical Technology program. Before starting the third semester, the student must have successfully completed the Mathematics Modules 2341-44. Upon the successful completion of this program, the degree of Associate in Science in Electrical Technology will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
6018	Fundamentals of Electricity 311	3	3	4
6071	Engineering Graphics 311	3		3
	*Mathematics 2331, 32, 33	3		3
1004	English Composition 1	3		3
2334	Slide Rule Math	1		1
4073	Human Relations at Work 3	3		3
		16	3	17

SEMESTER 2

No.	Course Title	Class	Lab	Credits
6025	A.C. Fundamentals	3	3	4
6023	Fundamentals of Electronics 311	4		4
	*Mathematics 2341, 42, 43, 44	4		4
1005	Composition 2: Intro. to Literature	3		3
4093	Industrial Psychology	3		3
		17	3	18

SEMESTER 3

No.	Course Title	Class	Lab	Credits
6028	A.C. and D.C. Motor Control	2	3	3
6030	Industrial Electronic Circuits	2	3	3
6033	Semiconductors/Transistors 1	2	3	3
6027	Computer Concepts & Logic Cir.	3		3
3012	Physics 1	3	3	4
		12	12	16

SEMESTER 4

No.	Course Title	Class	Lab	Credits
6031	Industrial Electro-Mech. Syst.	2	3	3
6026	Fundamentals of Instrumentation	2	3	3
6034	Semiconductors/Transistors 2	2	2	3
1007	Fundamentals of Speech	3		3
1008	Technical Report Writing	3		3
6032	Electro-Mech. Circuit Design	1	2	2
		13	10	17

*Note: Math courses 2331, 2332, 2333, 2334, 2341, 2342, 2343 and 2344 MUST be completed and passed by September start of third (3) semester.

6018 - FUNDAMENTALS OF ELECTRICITY 311 4 credits
A course dealing with the basic theories and concepts essential to a practical understanding of all phases of electricity and electronics. It treats fully the nature of electricity and magnetism, including an exposition of the electron theory as it relates to electricity. Consideration is given to Ohm's Law, and to associated circuits, batteries, induced E.M.F., magnetic circuits, D.C. measuring instruments, motors and generators.
Offered Fall Semester

6023 - FUNDAMENTALS OF ELECTRONICS 311 4 credits
The principles and properties of solid state devices are discussed in detail. Accompanying demonstration time is given for the student to observe construction methods, device operation and other solid state reaction phenomenon.
Offered Spring Semester

6025 - A.C. FUNDAMENTALS 4 credits
Understanding of the basic electrical and electronic principles of D.C. circuits is extended to include the more complex area of A.C. circuits. Generation, vector representation and algebraic manipulation of the sine wave, inductance, capacitance, resonance and Ohm's Law for alternating current circuits are studied. Practical methods of measuring inductance, capacitance and impedance are discussed together with A.C. and D.C. bridge circuits. Included also are the rudiments of complex-wave formation and analysis. In the laboratory, the student will perform experiments confirming theory and will be given experience and training in the repair of A.C. equipment. *Offered Spring Semester*

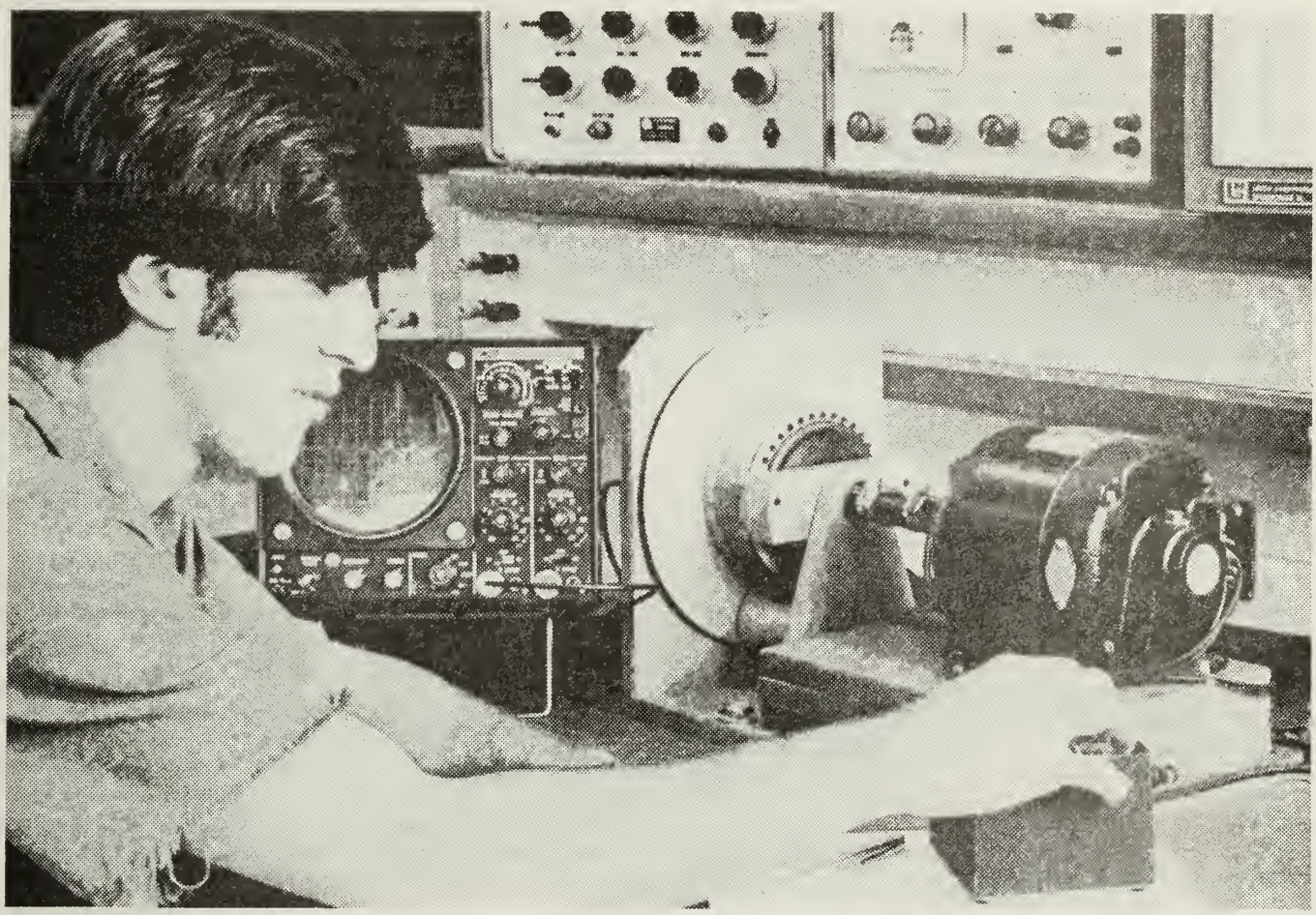
6026 - FUNDAMENTALS OF INSTRUMENTATION 3 credits
The student is introduced to the types of measuring means and their function, theory of operation, practical construction and use. Instrumentation terminology, and measuring devices for pressure, temperature, flow level, and analysis are studied. Experiments are performed in the laboratory. PREREQUISITES: 6018, 6023 and 6025.
Offered Spring Semester

6027 - COMPUTER CONCEPTS & LOGIC CIRCUITS 3 credits
This course is an introduction to the concepts of computer operation. Coverage includes: computer programming, computer mathematics, Boolean algebra and logic circuitry. The aim of the course is to present the necessary information essential to the understanding of digital computers and numeric control systems. PREREQUISITE: Senior Standing.
Offered Fall Semester

6028 - A.C. & D.C. MOTOR CONTROL 3 credits
Electrical and magnetic circuits are studied as they apply to the construction, principles of operation, and performance characteristics of both A.C. and D.C. motors. Laboratory and lecture are combined in the study of the motors and the auxiliary apparatus needed for their control. PREREQUISITES: 6018, 6023, 6025. *Offered Fall Semester*

6030 - INDUSTRIAL ELECTRONIC CIRCUITS 3 credits
This course deals with the fundamental circuits and components most frequently found in industrial electronic equipment. The basic circuit of a complete electronic control system and the characteristics of the component parts of each circuit are studied. Emphasis is placed on the characteristics of the phanatron, thyratron, ignitron, solid state devices and sensing elements. Parts of the course deal with vacuum-tube amplifiers, oscillators and saturable reactors. The laboratory section of the course is designed to verify by means of experiments the characteristics of the components and circuits used in industrial electronics. It is intended to develop an understanding of those circuit construction practices and testing techniques common to the field. PREREQUISITES: 6018, 6023 and 6025. *Offered Fall Semester*

6031 - INDUSTRIAL ELECTROMECHANICAL SYSTEMS 3 credits



Class and laboratory work in basic pneumatic, hydraulic and mechanical systems which make use of previously acquired understanding of electrical and electronic techniques. The application to automated equipment and systems is stressed. PREREQUISITES: 6028, 6030 and 6023.

Offered Spring Semester

6032 - ELECTROMECHANICAL CIRCUIT DESIGN 2 credits

The design and application to industrial electromechanical systems of electrical circuitry using solid state devices, integrated circuits, memory storage and electronics. PREREQUISITES: 6018, 6023 and 6025.

Offered Spring Semester

6033 - SEMICONDUCTORS & TRANSISTORS 1 3 credits

The principles and electrical properties of semiconductor diodes and transistors are studied. Special emphasis is placed upon the uses of semiconductor devices in rectifiers, amplifiers, oscillators and special circuits.

The accompanying laboratory work enables the student to measure the properties of these devices and to verify their operating principles and uses in actual circuits. PREREQUISITES: 6018, 6023 and 6025.

Offered Fall Semester

6034 - SEMICONDUCTORS & TRANSISTORS 2 3 credits

A study of the circuitry and design of semiconductor devices commonly used in industry. Among the topics covered are servo controls, switching networks, regular circuits and special amplifiers. The nature and basic design of these circuits are analyzed using the latest components available. PREREQUISITES: 6018, 6023, 6025 and 6033.

Offered Spring Semester

6071 - ENGINEERING GRAPHICS 311 3 credits

This course prepares a person to take a component part and present it in accordance with graphic language. This part must then be utilized with other parts graphically. All research necessary for the parts hardware and software must be included. The student's concurrent electrical knowledge is utilized in graphic and symbolic form for electrical circuitry and construction techniques. This is carried on to the degree that as he establishes his future electrical knowledge, he can easily implement his graphic knowledge expansion. Standards of the industry are introduced continuously at the appropriate time for different phases of the art. *Offered Fall Semester*

CE6261 - FUNDAMENTALS OF POWER CIRCUITS 3 credits

The classes will be geared to the discussion of power circuits at the primary feeder level and should be of interest to industrial plant personnel although it will also be geared to utility people. Fundamentals of power-feeder calculations will be covered and will include power, power factor and power factor correction problem solving. Equipment to be studied will include generators, power transformers, potential and current transformers, power circuit breakers and relays. Typical power feeders will be described combining these equipments.

CE before a course number indicates: Continuing Education (offered currently only in the Evening Division).

ELECTRO-MECHANICAL TECHNOLOGY

Electro-Mechanical Technicians are becoming increasingly important in a variety of industries. Various functions performed might include: Customer or Product Service; Product Design and Testing; Building and Evaluating Test Equipment; Building and Testing Prototypes; Production Equipment Installation; Quality Control and Assurance; Test Equipment Maintenance; Production Equipment Maintenance; Product Engineering and Operation of Research Equipment.

The advantage to the student in this program is a training in both the electronic and the mechanical fields.

Minimum Grade Requirement: Students must receive a grade of "D" or better. A Q.P.A. of 2.0 must be achieved for graduation. Upon the successful completion of this program, the degree of Associate in Science in Electro-Mechanical Technology will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credit
1004	English Comp 1	3		3
	Mathematics 2321-23	3		3
4073	Human Relations at Work	3		3
6046	Electro-Mechanical Systems	3	3	4
6262	Engineering Graphics 371	1	3	2
		13	6	15

SEMESTER 2

No.	Course Title	Class	Lab	Credit
1008	Technical Report Writing	3		3
	Mathematics 2331-33	3		3
6268	Mechanisms	3		3
3012	Physics 1	3	3	4
6132	Control System Theory	3	3	4
		15	6	17

SEMESTER 3

No.	Course Title	Class	Lab	Credit
2015	Statistics and Quality Control	4		4
6064	Industrial Materials	3		3
6032	Electro-Mechanical Circut Design	1	3	2
6058	Strength of Materials	4		4
6382	Systems Evaluation 1	4		4
		16	3	17

SEMESTER 4

No.	Course Title	Class	Lab	Credit
6150	Fluid Power	3	2	4
6381	Engineering Economy	3		3
6031	Industrial Electro-Mechanical Sys.	2	3	3
6383	System Evaluation 2	4		4
6026	Fundamentals of Instrumentation	2	3	3
		14	8	17

6262 - ENGINEERING GRAPHICS 371 2 credits

An introduction spatial, architecture and machine drawing requirements is provided. These will principally be applied to working drawings, detail drawings, structural shapes and frames. Military specifications and other standards are introduced. *Offered Fall and Spring*

6046 - ELECTRO-MECHANICAL SYSTEMS 4 credits

An introduction to devices where both electrical and mechanical principles are utilized. The use of drawings, schematics, hand tools and common shop equipment forms an important part of the course. Electro-mechanical components included are switches, relays, solenoids, motors, generators and actuators. Electro-magnetic principles and circuits and their application to component operation is the central theme.

Offered Fall Semester

6132 - CONTROL SYSTEM THEORY 4 credits

The control of relays, solenoids, contactors and motors. Modern solid state control devices such as silicon control rectifiers, unijunction transistors, diacs and triacs are used to illustrate the principles of control as they are applied to electro-mechanical devices.

The control of levels, rates and position through the use of electro-mechanical, hydraulic, pneumatic , mechanical, electrical and electronic devices. Topics include voltage regulators, synchros, amplifiers, open and close-loop systems, differential controls, integral controls, stability and response time. *Offered Spring Semester*

6031 - INDUSTRIAL ELECTRO-MECHANICAL SYSTEMS 3 credits

Class and laboratory work in basic pneumatic, hydraulic and mechanical systems which make use of previously acquired understanding of electrical and mechanical techniques. The application to automated equipment and systems is stressed. *Offered Spring Semester*

6032 - ELECTRO-MECHANICAL CIRCUIT DESIGN 2 credits

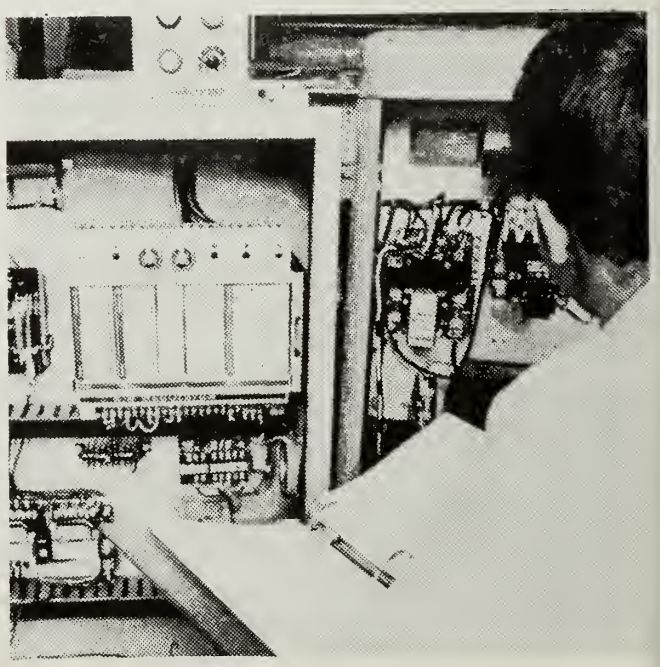
The design and application to industrial electromechanical systems of electrical circuitry using solid state devices, integrated circuits, memory storage and electrons. *Offered Fall Semester*

6382 - SYSTEMS EVALUATION 1 4 credits

Combinations of electrical, mechanical, hydraulic and pneumatic system, designed and evaluated for continuity and use. Simple systems, practical application and interplay is stressed along with troubleshooting various systems. *Offered Fall Semester*

6383 - SYSTEMS EVALUATION 2 4 credits

Continuation of System Evaluation 1 on more complex equipment. *Offered Spring Semester*



ELECTRONIC BENCHWORK TECHNOLOGY

The Electronic Benchwork Technology program offers a curriculum designed to prepare the student for the many and varied careers available in the field of consumer electronics service and maintenance. Training for this field is provided by a two-year technical program of specialized, intensive instruction which emphasizes modern consumer electronics devices from both a theoretical and practical viewpoint. The laboratory courses in the program help the student to develop an expertise in the systematic troubleshooting of a wide variety of electronic devices.

Minimum Grade Requirement: Students in Electronic Benchwork Technology must receive a grade of "D" or better. A Q.P.A. of 2.0 must be achieved for graduation. Also, before starting the third semester, the student must have successfully completed the Mathematics Modules 2331-33. Upon the successful completion of this program,the degree of Associate in Science in Electronic Benchwork Technology will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Comp. 1	3		3
	Mathematics 2321, 22, 23*	3		3
2334	Sliderule	1		1
4073	Human Rel. at Work	3		3
6019	Basic Electronics 1	3		3
6178	Electronics Lab 1		4	2
6239	Graphics for Elec. Tech.	1	2	2
		14	6	17

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	English Comp	3		3
	Mathematics 2331, 32, 33*	3		3
6024	Basic Electronics 2	3		3
6035	Semiconductor Circuits 1	3		3
6179	Electronics Lab 2		4	2
		12	4	14

SEMESTER 3

No.	Course Title	Class	Lab	Credits
1008	Tech. Report Writing	3		3
6036	Electronic Instru.		4	2
6273	Electronic Circuitry	3		3
6287	Electronic Troubleshoot. 1	2	4	3
6213	Comm. Systems 1	3		3
5029	Small Bus. Mgt.	3		3
		14	8	17

SEMESTER 4

No.	Course Title	Class	Lab	Credits
3012	Physics	3	3	4
6286	Elect. Const. Techniques		4	2
6289	Electronic Troubleshoot. 2	2	4	3
1007	Fund. of Speech	3		3
6225	Electronic Licenses	2	1	3
		10	12	15

* Note: All Math courses 2321 through 2333 must be completed and passed by September start of (3) third semester.

6019 - BASIC ELECTRONICS 1 3 credits

This course is an introduction to the fundamental concepts of electronics. Coverage includes: concepts of electricity, series and parallel circuits, network theorems and laws and metering principles. The purpose of this course is to present the necessary concepts and ideas which will be needed in more advanced course work about specific electronic systems. Emphasis is placed on the analysis of direct current networks. Specifically, the calculation of such circuit parameters as current, voltage and power for various network configurations.

Offered Fall Semester

6024 - BASIC ELECTRONICS 2 3 credits

The fundamental concepts of alternating current circuits are presented. Starting with a review of direct current theorems and laws, the concepts of alternating currents are introduced using phasor analysis. Some topics covered include: capacitive and inductive reactance, transients, time constants, power and power factor, the j-operator, resonant circuits, circuit Q and bandwidth, filters and switching circuits. PREREQUISITES: 6019 Corequisites: 6179 and 2331-34.

Offered Spring Semester

6035 - SEMICONDUCTOR CIRCUITS 1 3 credits

This course is an introduction to the theory of solid-state semiconductor devices. Topics considered in the course include: semiconductor physics, the pn junction diode, tunnel and zener diodes and bipolar transistors. The I V characteristics of these various devices are studied and analyzed, idealized models are considered, circuit biasing techniques are discussed and a comparison of the different transistor circuit configurations is undertaken. PREREQUISITES: 6019 Corequisites: 6179 and 2331-34

Offered Spring Semester

6036 - ELECTRONIC INSTRUMENTATION 2 credits

This course is an introduction to the theory ofoperation and the application of modern electronic measurement equipment. Topics covered include: oscilloscopes, electronic volt-ohm-meters, digital instruments, signal generators, sweep generators, repair test equipment, recorders, transducers and data acquisition equipment. PREREQUISITES: Senior Standing.

Offered Fall Semester

6178 - ELECTRONICS LAB 1 2 credits

This course is the first in a sequence of four courses designed to give the student practical experience with electronic components, measuring instruments and equipment. The emphasis in the laboratory work is on the verification of theory studied in Basic Electronics 1 about direct current networks. Equal emphasis is placed on the familiarization of the student with electronic metering principles, electronic testing procedures and the use of various electronic components commonly found in the electronics industry. PREREQUISITE: None.

Offered Fall Semester

6179 - ELECTRONICS LAB 2 2 credits

A continuation of Electronics Lab 1, the emphasis in this course is again placed on practical experience. The student receives continued exposure to electronic components, test equipment and circuitry. Now the laboratory work is concerned with the verification of theory studied in the student's course work on passive networks and active solid-state devices. The student gains experience in the setting up and testing of useful electronic circuits and systems. PREREQUISITES: 6178 with a "C minus" or better.

Offered Spring Semester

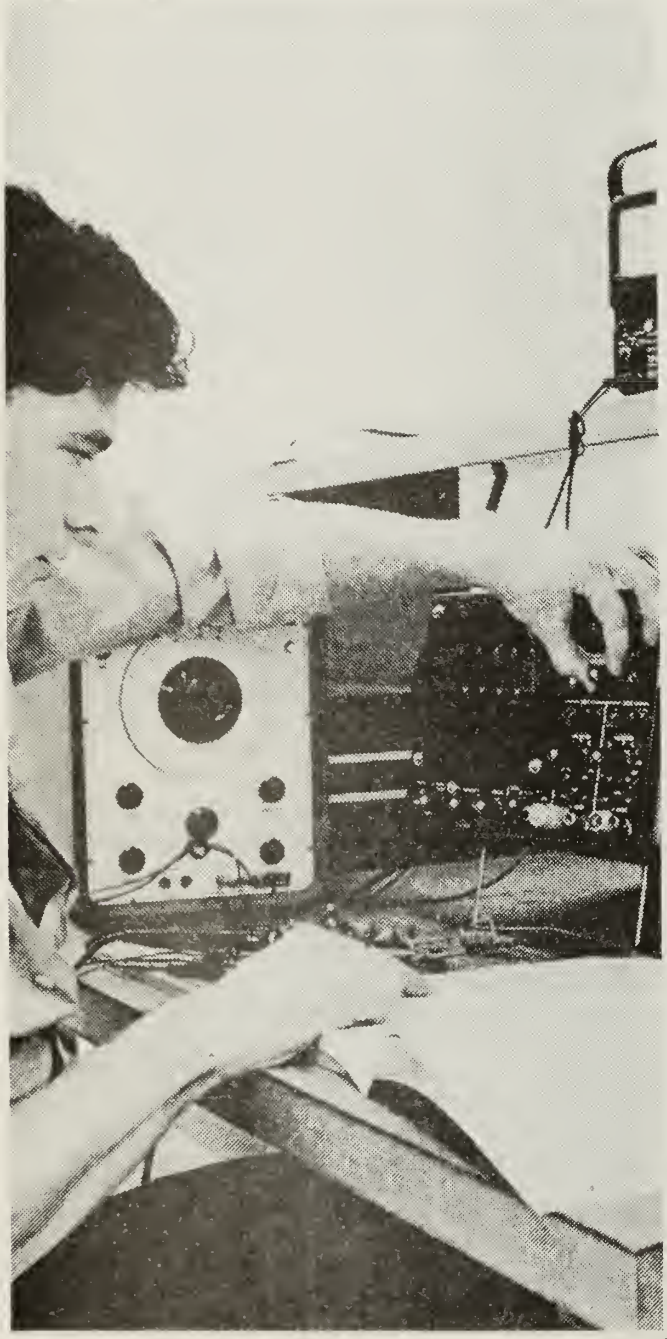
6213 - COMMUNICATIONS SYSTEMS 1 3 credits

The aim of this course is to present information about the circuit processes, and basic theories essential to the understanding of communications systems. Topics included in the course are noise limitations, filter theory, amplitude modulation, frequency modulation, single-sideband modulation, radio receivers and pulse modulation schemes. How these systems are used to transmit different information

forms such as audio or video or data signals is studied in detail. PREREQUISITES: Senior Standing. *Offered Fall Semester*

6225 - ELECTRONIC LICENSES 3 credits
This course is an introduction to the fields of radio and television broadcasting. A general survey of the media including history, government control and regulations, present and future trends and career opportunities is undertaken. Intensive drill on topics in both radio law and theory is done in preparation for the Federal Communications Commission license examinations. PREREQUISITES: Senior Standing and 6213. *Offered Spring Semester*

6273 - ELECTRONIC CIRCUITRY 3 credits
This course is an introduction to electronic circuitry that is peculiar to home-entertainment equipment. Basic "building block" circuits will be considered. Coverage includes: rectifiers, voltage regulators, oscillators, amplifiers, detectors and feedback circuits. Emphasis will be placed on circuitry utilized in amplifier, radio and television equipment. PREREQUISITES: Senior Standing. *Offered Fall Semester*



6286 - ELECTRONIC CONSTRUCTION TECHNIQUES 2 credits
This course is an introduction to electronic construction practices. Printed circuit board theory and layout, heat sinking techniques, soldering techniques, chassis layout, electronic tools and machining principles and numerous other topics are considered and examined. *Offered Fall Semester*

6287 - ELECTRONIC TROUBLESHOOTING 1 3 credits
This is the first course in a sequence of two which is designed to give the student practical troubleshooting experience. The course consists of a lecture portion and a laboratory section. Topics covered in the lecture will be directly related to the laboratory work and will consist of material on home entertainment equipment primarily. The laboratory section will be concerned with giving students practical experience with electronic troubleshooting techniques. The course emphasis will be on electronic audio and radio equipment troubleshooting methods. *Offered Fall Semester*

6289 - ELECTRONIC TROUBLESHOOTING 2 3 credits
A continuation of Electronic Troubleshooting 1, this course shifts its emphasis to monochromic and color television systems. Again, the lecture portion of the course covers the necessary theory and the laboratory section gives the student practical troubleshooting experience. The theory of monochromic television receivers is covered in detail using signal tracing techniques. Color television operation is discussed extensively and alignment and repair methods explored and attempted in the laboratory. PREREQUISITE: 6287. *Offered Spring Semester*

ELECTRONICS TECHNOLOGY

The Electronic Technology program is organized to present learning activities that will qualify the graduate to perform job functions in areas such as communications, control systems, computers, circuit design and systems testing. Training for a wide range of jobs is provided by a two-year technical program of specialized, intensive instruction designed to fit individuals for useful employment as highly skilled technicians in the electronics field.

Minimum Grade Requirement: Students in Electronic Technology and Electronic Benchwork Technology must receive a grade of "D" or better. A Q.P.A. of 2.0 must be achieved for graduation. Upon the successful completion of this program, the degree of Associate in Science in Electronics Technology will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Comp. 1	3		3
	Mathematics 2331, 32, 33*	3		3
2334	Sliderule Mathematics	1		1
4073	Human Rel. at Work	3		3
6019	Basic Electronics 1	3		3
6178	Electronics Lab 1		4	2
6239	Graphics for Elect. Tech.	1	2	2
		14	6	17

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	English Comp. 2	3		3
	Mathematics 2341, 42, 43*	3		3
6024	Basic Electronics 2	3		3
6035	Semiconductor Circuits 1	3		3
6179	Electronics Lab 2		4	2
2344	Technical Calculus	1		1
		13	4	15

SEMESTER 3

No.	Course Title	Class	Lab	Credits
1008	Technical Report Writing	3		3
6027	Computer Concepts & Logic Cir.	3		3
6037	Fund. of Pulse & Digital Circuits	3		3
6213	Comm. Systems 1	3		3
6212	Semicond. Circuits 2	3		3
6180	Electronics Lab 3		4	2
		15	4	17

SEMESTER 4

No.	Course Title	Class	Lab	Credits
3012	Physics	3	3	4
6029	Fund. of Digital Cumputer Systems	3		3
6038	Comm. Systems 2	3		3
6039	Integrated Electronics	3		3
6181	Electronics Lab 4		4	2
6225	Electronic Licenses	2	1	3
		14	8	18

* Note: All Math courses from 2331 through 2344 must be completed and passed by start of semester 3.

6019 - BASIC ELECTRONICS 1 3 credits

This course is an introduction to the fundamental concepts of electronics. Coverage includes: concepts of electricity, series and parallel circuits, network theorems and laws and metering principles. The purpose of this course is to present the necessary concepts and ideas which will be needed in more advanced course work about specific electronic systems. Emphasis is placed on the analysis of direct current networks. Specifically, the calculation of such circuit parameters as current, voltage and power for various network configurations.

Offered Fall Semester

6024 - BASIC ELECTRONICS 2 3 credits

The fundamental concepts of alternating current circuits are presented. Starting with a review of direct current theorems and laws, the concepts of alternating currents are introduced using phasor analysis. Some topics covered include: capacitive and inductive reactance, transients, time constants, power and power factor, the j-operator, resonant circuits, circuit Q and bandwidth, filters and switching circuits. PREREQUISITES: 6019 Corequisites: 6179 and 2331-34.

Offered Spring Semester

6027 - COMPUTER CONCEPTS & LOGIC CIRCUITS 3 credits

This course is an introduction to the concepts of computer operation. Coverage includes: computer programming, computer mathematics, Boolean algebra and logic circuitry. The aim of the course is to present the necessary information essential to the understanding of digital computers and numeric control systems. PREREQUISITE: Senior Standing.

Offered Fall Semester

6029 - DIGITAL COMPUTER SYSTEMS 3 credits

This course is an introduction to the operation of digital computer systems. Coverage includes: computer arithmetic logic unit operation, the operation and organization of computer memory, the operation of input-output devices, computer timing and computer control. The aim of the course is to present the information essential to the understanding of the operation of digital computers and how they interface with the world we live in so as to be useful for business, scientific and industrial applications. PREREQUISITES: Senior Standing and 6027.

Offered Spring Semester

6035 - SEMICONDUCTOR CIRCUITS 1 3 credits

This course is an introduction to the theory of solid-state semiconductor devices. Topics considered in the course include: semiconductor physics, the pn junction diode, tunnel and zener diodes and bipolar transistors. The I-V characteristics of these various devices are studied and analyzed, idealized models are considered, circuit biasing techniques are discussed and a comparison of the different transistor circuit and configurations is undertaken. PREREQUISITES: 6019, Corequisites: 6179 and 2331-34

Offered Spring Semester

6037 - PULSE AND DIGITAL CIRCUITS 3 credits

The fundamentals applying to nonsinusoidal pulse, timing and switching circuits are presented. The theory is demonstrated by actual measurement and observation and the circuits are analyzed mathematically in detail. Some of the topics covered include: the application of circuit theorems, waveform analysis, integration and differentiation circuits, semiconductors as switches, multivibrators, sawtooth generators and gating and delay circuits. Prerequisites: Senior Standing.

Offered Fall Semester

6038 - COMMUNICATIONS SYSTEMS 2 3 credits

A continuation of Communications Systems 1. The aim of this course is to present the theory behind the operation of more sophisticated electronic communications systems. Topics included in the course are stereo FM and SCA systems, both monochromic and color television, transmission lines, antennas and microwave systems. The operation and theory of microwave systems is covered in detail with emphasis given to X-band waveguide devices and components. PREREQUISITES: Senior Standing and 6213.

Offered Spring Semester

6039 - INTEGRATED ELECTRONICS 3 credits

The aim of this course is to present information relative to the theory behind the operation of the "fundamental building blocks" of both analog and digital electronic systems Topics included in the course are a review of bipolar and field-effect

transistor theory, amplifier circuits, active filters, power supply circuits, operational amplifiers, integrated circuit theory, crystal and feedback oscillators and voltage regulators. This course brings together the theory of semiconductor devices and their applications as useful electronic systems elements. PREREQUISITES: Senior Standing.

Offered Spring Semester

6178 - ELECTRONICS LAB 1 2 credits

This course is the first in a sequence of four courses designed to give the student practical experience with electronic components, measuring instruments and equipment. The emphasis in the laboratory work is on the verification of theory studied in Basic Electronics 1 about direct current networks. Equal emphasis is placed on the familiarization of the student with electronic metering principles, electronic testing procedures and the use of various electronic components commonly found in the electronics industry. PREREQUISITES: None. *Offered Fall Semester*

6179 - ELECTRONICS LAB 2 2 credits

A continuation of Electronics Lab 1, the emphasis in this course is again placed on practical experience. The student receives continued exposure to electronic components, test equipment and circuitry. Now the laboratory work is concerned with the verification of theory studied in the student's course work on passive networks and active solid-state devices. The student gains experience in the setting up and testing of useful electronic circuits and systems. PREREQUISITES: 6178 with a "C minus" or better.

Offered Spring Semester

6180 - ELECTRONICS LAB 3 2 credits

This course is a continuation of the laboratory experience for students involved in the Electronics Technology curriculum. However, now the emphasis is on material covered in the senior year. The theory learned in the course work is tested in the laboratory by observations of circuits and systems pertinent to those courses. Besides the reinforcement of concepts and ideas germane to the electronics curriculum, the student's proficiency with electronic equipment and test devices is improved and familiarity with practical electronics applications enhanced. PREREQUISITES: 6179 with a "C minus" or better and Senior Standing. *Offered Fall Semester*

6181 - ELECTRONICS LAB 4 2 credits

This course is a continuation of Electronics Lab 3. The course is now concerned with the theory studied in the fourth semester of the electronics curriculum. Again, theoretical concepts are reinforced and practical ability enhanced. PREREQUISITES: 6180 with a "C minus" or better and Senior Standing. *Offered Spring Semester*

6212 - SEMICONDUCTOR CIRCUITS 2 3 credits

This course is a continuation of Semiconductor Circuits 1. The emphasis is now on the use of semiconductor devices as useful active circuit elements. Topics include: amplifiers, cascaded stages, frequency and gain limitations, feedback principles, temperature effects and h-parameters. Considered, also, are field-effect transistors and other special semicondictor devices. PREREQUISITES: Senior Standing and 6035.

Offered Fall Semester

6213 - COMMUNICATIONS SYSTEMS 1 3 credits

The aim of this course is to present information about the circuit processes and basic theories essential to the understanding of communications systems. Topics included in the course are noise limitations, filter theory, amplitude modulation, frequency modulation, single-sideband modulation, radio receivers and pulse modulation schemes. How these systems are used to transmit different information forms such as audio or video or data signals is studied in detail. PREREQUISITE: Senior Standing. *Offered Fall Semester*

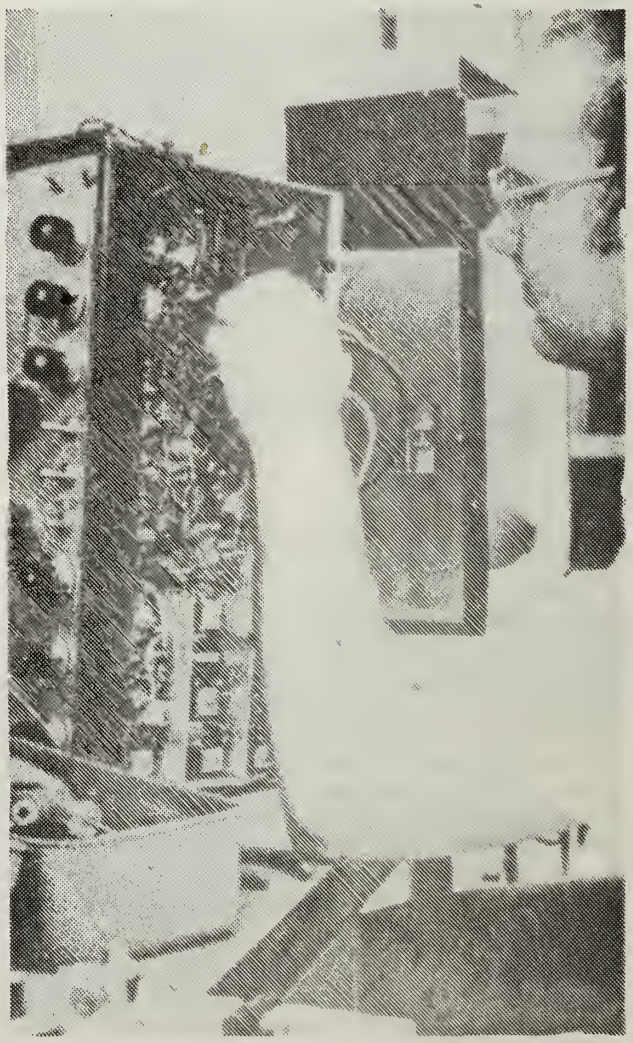
6225 - ELECTRONIC LICENSES 3 credits

This course is an introduction to the fields of radio and television broadcasting. A general survey of the media including history, government control and regulations, present and future trends and career opportunities is undertaken. Intensive drill on topics in both radio law and theory is done in preparation for the Federal Communications Commission license examinations. PREREQUISITES: Senior Standing and 6213.

Offered Spring Semester

6239 - GRAPHICS FOR ELECTRONIC TECHNOLOGY 2 credits

This course emphasizes drafting form, geometric construction, orthographic projection, dimensioning and views. The latter portion includes electronic symbols, circuit diagrams, wiring schematics and chassis layouts. *Offered Spring Semester*



ELECTRONICS TECHNOLOGY / COMPUTER MAINTENANCE OPTION

The Computer Maintenance Technology Program is designed to provide the student with the necessary electronics background and the computer "know-how" to deal with the ever-changing computer technology of the space age. This portion will equip the student with well beyond entry-level skills in the area of computer service maintenance; a field in which both demand and remuneration is high. A typical position title is Computer Maintenance Service Worker.

Minimum Grade Requirements: Students in Computer Maintenance Technology must receive a grade of "D" or better. A Q. P. A. of 2.0 must be achieved for graduation. All math courses from 2331 to 2343 must be completed and passed by the start of the third semester.

Upon the successful completion of this program, the degree of Associate in Science in Electronics Technology will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credi
1004	English Comp 1	3		3
	Methematics 2331-33	3		3
6019	Besic Electronics 1	3		3
6178	Electronics Lab 1		4	2
6239	Electronics Grephics	1	2	2
4073	Humen Reletions at Work	3		3
		13	6	16

SEMESTER 2

No.	Course Title	Class	Leb	Credi
1005	English Comp 2	3		3
	Methematics 2341-43	3		3
6024	Besic Electronics 2	3		3
6179	Electronics Leb 2		4	2
6035	Semiconductor Circuts 1	3		3
6386	Intro. to Progremming	1		1
		13	4	15

SEMESTER 3

No.	Course Title	Class	Leb	Credit
1008	Technical Report Writing	3		3
6027	Computer Concepts end Logic Cir.	3		3
6212	Semiconductor Circuts 2	3		3
9917	Mechining end Assembly Leng.	3		3
6387	Digitel Electronics Leb 1		4	2
6213	Communicetions Systems 1	3		3
		15	4	17

SEMESTER 4

No.	Course Title	Class	Leb	Credit
6029	Fund. of Digitel Computer Syst.	3		3
6039	Integreted Electronics	3		3
3012	Physics	3	3	4
6389	Microprocessor Theory	3		3
6390	Advenced Computer Topics	3		3
6388	Digital Electronics Leb 2		4	2
		15	7	18

6386 - INTRODUCTION TO PROGRAMMING 1 credit
Fundamental concepts of computer programming will be examined in this course. Topics covered will be: computer languages and unibuss theroy. *Offered Spring Semester*

9917 - MACHINE AND ASSEMBLY LANGUAGES 3 credits
Input/output equipment, machine organization, logical design, elemetary data stuctures, and assembly language programming. Machine and assembly language for the PDT-11, a typical mini-computer, will be studied in detail and contrasted to other machines. *Offered Fall Semester*

6387 - DIGITAL ELECTRONICS LAB 1 2 credits
This course gives the student hands-on experience with the logic circutry studied in DIGITAL LOGIC THEROY. Logic characteristics are studied, gating circuts constructed, and troubleshooting techniques explored. *Offered Fall Semester*

6390 - ADVANCED COMPUTER TOPICS 3 credits
Advanced compute concepts are studied in this course. Mass memory devises are studied in detail and consideration is given to the various forms of magnetic recording techniques. Other exotic input/output devices are examined.
Offered Spring Semester

6388 - DIGITAL ELECTRONICS LAB 2 2 credits
This course is a continuation of DIGITAL ELECTRONICS LAB. The student studies the operation of fundamental computer building block circuts such as, flip-flops, timers, counters, and various interface devices. Consideration is also given to power supply and voltage regulator theroy.
Offered Spring Semester

6389 - MICROPROCESSOR THEORY 3 credits
The microprocessor in digital control systems, the substitution of software for hardware in logic design and the interface of the microprocessor with external devices. Architectural features of current microprocessors like the Intel 8080 will be examined and a study of the devices' applications will be undertaken. *Offered Spring Semester*



ENVIRONMENTAL TECHNOLOGY

The Department of Environmental Control Technology offers air and water quality technology combined with wastewater treatment technology.

The program is oriented toward environmental engineering with the objective of training para-professionals who can assist the engineer in detecting and measuring pollution, and installing control facilities, or who can operate purification facilities. The graduates will find employment in governmental agencies, industrial facilities, engineering firms, municipal engineering offices, waste treatment plants and related facilities.

The course of study is specifically designed for those students who are interested in the aspects of pollution control. It is definitely career-oriented and full credit generally will not be transferable to a four-year college. Students desiring to enter the program must have had one year of chemistry plus one year of algebra or its equivalent. Those who do not have this background may enroll but they must expect to attend one additional year or two summer sessions to make up their deficiencies.

The students will be trained in both the theory and its application and will receive hands-on instruction on many items of commercial equipment.

Minimum Grade Requirement: The minimum passing grade for any individual course in the Environmental Technology Department shall be a "D" (60). The minimum average for graduation from the department shall be a letter grade of "C."

Upon the successful completion of this program,the degree of Associate in Science in Environmental Control Technology will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
	Mathematics 2331, 32, 33	3		3
2334	Slide Rule Math	1		1
3109	Chemistry	3	3	4
1004	English Composition	3		3
6191	Process Problems 1	3	3	4
6186	Environmental Studies	3		3
		16	6	18

SEMESTER 2

No.	Course Title	Class	Lab	Credits
3088	Environmental Microbiology	2	3	3
1008	Technical Report Writing	3		3
3110	Chemistry	3	3	4
6234	Basic Instrumentation	3		3
6192	Treatment Plant Oper. 1	2	3	3
		13	9	16
6313	Practicum (summer) 1 week in May/ 4 wks. in June			3

SEMESTER 3

No.	Course Title	Class	Lab	Credits
3012	Physics	3	3	4
6201	Industrial Health and Safety	3		3
4014	Economics	3		3
6328	Treatment Plant Oper. 2	2	3	3
6197	Water Sample, Analysis and Control Proc.	2	3	3
		13	9	16

SEMESTER 4

No.	Course Title	Class	Lab	Credits
6190	Systems Maintenance	2	3	3
6183	Wastewater Sample and Proc.	2	3	3
6200	Air Sample, Analysis and Control Process	3	3	3
xxxx	Elective	3		3
4073	Human Relations at Work	3		3
		13	9	15

6183 - WASTEWATER SAMPLE AND PROCESS 3 credits

An investigation of the chemistry of domestic and industrial liquid wastes, their effects upon wastewater treatment plants and processes and the test procedures and techniques required for treatment plant operation. It includes such topics as collection and preservation of samples, acidity and alkalinity, color, odor, turbidity, hardness, mineral content, chlorination, dissolved oxygen (DO), biochemical oxygen demand (BOD), chemical oxygen demand (COD), greases, volatile acids, toxic metals and suspended matter. *Offered Spring Semester*

6186 - ENVIRONMENTAL STUDIES 3 credits

An introduction to environmental pollution, its effect on man and other living things and the basic principles of sanitation, treatment and control. It includes a discussion of the major pollutants of air, water and land; sewage and industrial waste composition; disease transmittal; control methods and air and water quality standards. *Offered Fall Semester*

6190 - SYSTEMS OPERATIONS & MAINTENANCE 3 credits

A study of wastewater treatment plant equipment with emphasis on diagnosis and repair and preventive maintenance programs. Topics include tanks, piping systems, valves, pumps, motors, controls, instruments, screens, filters, mixers, chlorinators, centrifuges and incinerators. Maintenance planning, scheduling and record keeping is emphasized. PREREQUISITE: 6191. *Offered Spring Semester*

6191 - PROCESS PROBLEMS 1 4 credits

An introduction to the analytical approach to problem solution and a familiarization with various calculation aids. It will include turning word problems into equations, problem solving, exponential quantities, graphing and chemical stoichiometry. *Offered Fall Semester*

6192 - TREATMENT PLANT UNIT OPERATIONS 1 3 credits

An investigation of the physical and chemical processes utilized in the treatment of liquid wastes. It includes such topics as collection and transportation systems; hydraulic theory; flow measurement; pumping; treatment methods; solids digestion; solids processing and disposal; polishing and industrial waste treatment. *Offered Spring Semester*

6197 - WATER SAMPLE, ANALYSIS & CONTROL PROC 3 credits

A study of the processes utilized to reduce or eliminate pollution of the atmosphere. Topics such as combustion, precipitation, filtration, screening, catalysis, adsorption and absorption are investigated. *Offered Fall Semester*

6200 - AIR SAMPLE, ANALYSIS & CONTROL PROCESSES 3 credits

An investigation of the equipment and techniques used in atmospheric sampling and of the instruments used to analyze the samples. Topics include the behavior of gases and suspended particles, sampling methods and equipment, electrical analysis, microscopy, spectroscopy and chromatography. *Offered Spring Semester*

6201 - INDUSTRIAL HEALTH & SAFETY 3 credits

An investigation of the procedures and attitudes required so that man may safely work in the vicinity of industrial processes and equipment. Topics include the man-machine interaction, development of mental attitudes, housekeeping and the effect of the process atmosphere on health. *Offered Fall Semester*

6234 - BASIC INSTRUMENTATION 3 credits

A study of electrical, electronic and pneumatic basic and operating principles as applied to instrumentation used for the measurement and control of process variables. Instrumentation terminology is introduced and familiarity with typical types and applications of instruments is developed. Laboratory experiments are performed to clarify and reinforce the fundamental principles. PREREQUISITE: 2331.

Offered Spring Semester

6328 - TREATMENT PLANT UNIT OPERATIONS 2

3 credits

An investigation of the physical and chemical processes utilized in the treatment of liquid wastes. It includes such topics as collection and transport systems; hydraulic theory; flow measurement; pumping; treatment methods; solids digestion; solids processing and disposal; polishing and industrial waste treatment.

Offered Fall Semester



FACILITIES ENGINEERING TECHNOLOGY

This program will train students as Facilities Engineering Technicians, specializing in Mechanical Systems Maintenance. The training will provide competence in the wide variety of skills needed to perform this function. For example, upon the completion of the program, the graduate will be able to read blueprints; to recognize safety hazards and to develop accident prevention and loss control procedures; to operate and maintain power plants; and to write technical reports. A special feature of this program is a practicum of five weeks (the last week of May and four weeks in June) after the second semester in which the students would be able to obtain familiarity with actual plant working conditions and expectations.

Minimum Grade Requirement: Students should receive a grade of "D" or better and an overall Q.P.A. of 2.0 for graduation. Upon the successful completion of this program, the degree of Associate In Science in Facilities Engineering Technology will be awarded.

*Subject to program approval by the M.B.R.C.C. Planned implementation, September, 1979.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
2321-23	Math	3		3
6018	Fund. of Electricity 311	3	3	4
4073	Human Relations	3		3
6190	Sys. Operation Maint.	3		3
6335	Blueprint reading		3	1
		12	6	14

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
2331-33	Math	3		3
6110	Mech. Skills & Procedure	2	4	4
3012	Physics	3	3	4
6112	Machine Tool Techniques		3	1
6251	Basic Shop Techniques	1		1
6257	Elementary Welding	1		1
		13	10	17
6267	Summer Practicum (1 week May & 4 weeks June)			3

SEMESTER 3

No.	Course Title	Class	Lab	Credits
xxxx	Social Science Elective	3		3
1008	Technical Rpt. Writing	3		3
6115	Principles of Refrig.	1	2	2
6020	Theory of Controls	3		3
6155	Power Plant Oper. 1	1	2	2
		11	4	13

SEMESTER 4

No.	Course Title	Class	Lab	Credits
6157	Maintenance Problems	3		3
4014	Economics	3		3
6026	Fund. of Instr.	2	3	3
6156	Power Plant Oper. 2	1	2	2
9775	Building Construction	3		3
		12	5	14

6018 - FUND. OF ELECTRICITY 311 4 credits

A course dealing with the basic theories and concepts essential to a practical understanding of all phases of electricity and electronics. It treats fully the nature of electricity and magnetism, including an exposition of the electron theory as it relates to electricity. Consideration is given to Ohm's Law and to associated circuits, batteries, induced E.M.F., magnetic circuits, D.C. measuring instruments, motors and generators.

Offered Spring Semester

6020 - THEORY OF CONTROLS 3 credits

A course designed to deal with the basic theories and concepts required by both air-conditioning and heating servicemen. Topics covered include: basic electricity, meters, principles of motor operation, transformers and relays, along with an introduction to control circuits. These basics are essential in order that an individual may comprehend the control circuits to which he will be exposed in his line of work.

Offered Fall Semester

6026 - FUND. OF INSTRUMENTATION 3 credits

The student is introduced to the types of measuring means and their function, theory of operation, practical construction and use. Instrumentation terminology, and measuring devices for pressure, temperature, flow level, and analysis are studied. Experiments are performed in the laboratory.

Offered Spring Semester

6190 - SYSTEMS OPERATIONS & MAINTENANCE 3 cr.

A study of wastewater treatment plant equipment with emphasis on diagnosis and repair and preventive maintenance programs. Topics include tanks, piping systems, valves, pumps, motors, controls, instruments, screens, filters, mixers, chlorinators, centrifuges and incinerators. Maintenance planning, scheduling and record keeping is emphasized.

Offered Fall Semester

6110 - MECHANICAL SKILLS & PROC. 1 4 credits

An introductory course designed to provide for the development of the necessary fundamental technical and manual skills required in the Heating and Power, Refrigeration and Air-Conditioning fields. Weekly technical lectures, demonstrations, and/or blueprint reading problems are conducted to acquaint the whole class with accepted industry practices and procedures.

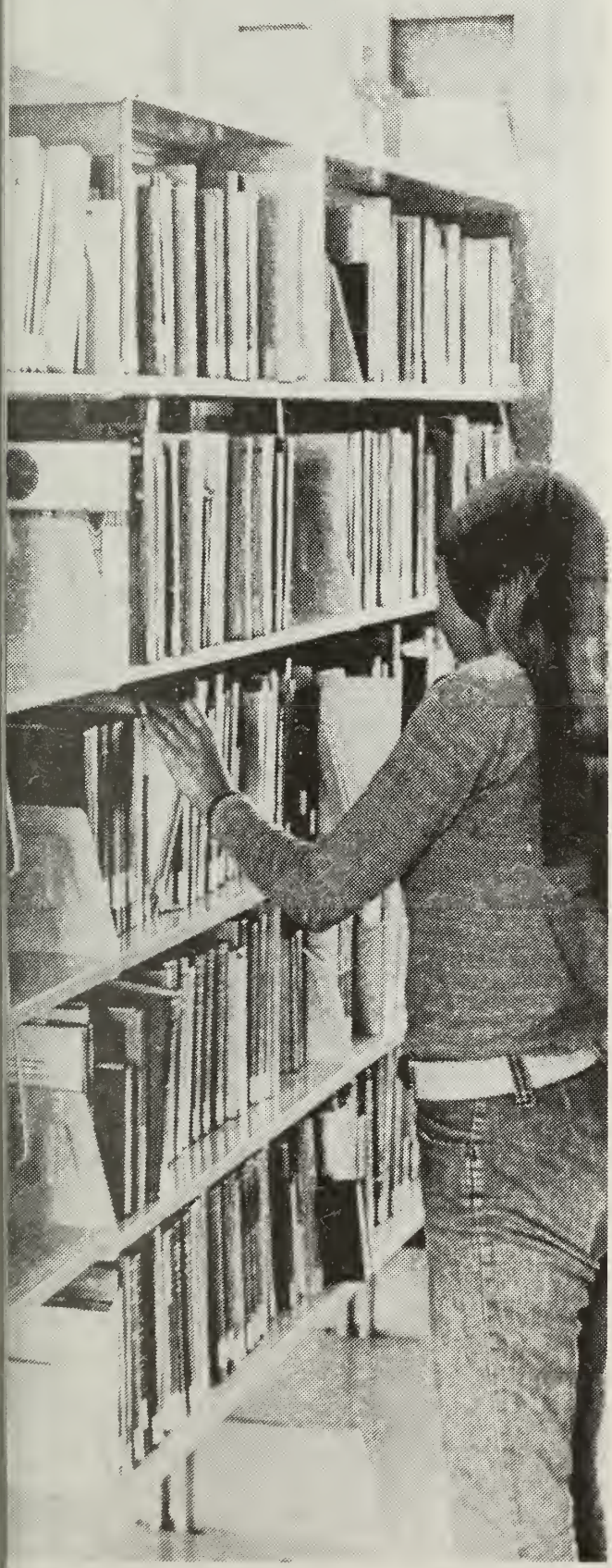
The corresponding laboratory enables the student to acheive practical exposure to operations and assignments involving use and care of hand tools, measuring devices, basic machine operations, turbine and piping layout and erection, threaded-soldered-welded construction, metal fabrication and electrical circuit wiring. *Offered Spring Semester*

6112 - MACHINE TOOL TECHNIQUES 1 credit

Covers industrial safety practices, principles of measuring using semi-precision and precision devices. The development of skills in machining techniques, cutting and hand tool common to assembly and bench work. Familiarization and application of thread series, tolerances, clearances, limits, fits and other mechanical specifications as applied in the interchangeability of parts in the automotive industry. Includes lectures, demonstrations and actual laboratory participation by the student. *Offered Spring Semester*

6115 - PRINCIPLES OF REFRIGERATION 2 credits

The practice of refrigeration is based upon two well-known principles of physics. The design and operation is based on the principles of thermodynamics, a branch of physics which involves the study of heat energy, while the actual process of cooling an enclosed space draws on knowledge from a branch



of physics called psychrometry. Therefore, a theoretical treatment of such concepts as temperature, total heat, density, specific gravity, pressure, energy, work and power is presented. Attention is then directed to psychrometry. A thorough knowledge of the properties of air, dew-point, wet-bulb, dry-bulb, moisture, relative humidity is essential. A study is then made of the refrigerants, their properties and characteristics used in refrigeration. covering pressure-temperature relationships, boiling and freezing points and heat capacities with extensive use of tables and curves.

Offered Fall Semester

6155 - POWER PLANT OPERATION 1 2 credits

Power plant engineering is a science based on those fundamental principles which underlie chemistry and especially the branches of physics known as "Thermodynamics, Heat Transfer, Fluid Mechanics, and Mechanics." A knowledge of the properties of air, water and steam is essential to the understanding of the operation of power plant equipment, as is fuels, combustion and fuel-gas analysis. Steam tables, calorimeters, orsat testers and other testing devices are used. Boilers, boiler auxiliaries and accessories are studied and viewed in actual operation in local power plants. *Offered Fall Semester*

6156 - POWER PLANT OPERATION 2 2 credits

With the principles learned in Power Plant Operation 1, this course is designed to involve the operation, maintenance, code requirements and the efficiencies of power plants. Attention is directed to steam generator construction, safety devices, pumps, feedwater heaters, piping systems and traps. Boiler feedwater treatment has become a scientific chemical procedure to condition the boiler water preventing scale, corrosion, caustic embrittlement, priming and foaming that causes carry-over. Preparation is made for a Massachusetts State Operator's license and a N.I.U.L.P.E. PREREQUISITE: Power Plant Operation 1 (6155). *Offered Spring Semester*

6157 - MAINTENANCE PROBLEMS 3 credits

This is a problem solving course. Typical problem cases are presented for analysis and viable solution. The scope of course is wide and takes in areas as the application of labor units, the setting up of maintenance systems and contractual services.

Offered Spring Semester

GRAPHIC ARTS TECHNOLOGY

The Graphic Arts Department offers a curriculum designed to prepare students for the many and varied careers available in the commercial printing and advertising business.

The courses are devoted to functional discussions crossing most branches of the printing industry. It is the objective of the department to relate the many branches of the industry to each other and to the totality of contemporary printing.

Rochester Institute of Technology, as well as other institutions offering Graphic Arts speciality courses, has indicated that it will accept credits from this program toward an advanced degree in Printing and Publishing.

Minimum Grade Requirement: Graphic Arts Technology students must achieve a minimum grade point of 2.5 in Graphic Arts courses for graduation. Upon the successful completion of this program, the degree of Associate in Science in Graphic Arts Technology will be awarded.



SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
4086	General Psychology	3		3
	Mathematics 2321, 22, 23	3		3
6077	Graphic Arts Processes 1	2	3	3
2334	Slide Rule Math	1		1
6114	Typography & Copy Preparation	2	3	3
		14	6	16

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	Composition 2: Intro. to Lit.	3		3
4014	Economics 1	3		3
6266	Alphabet Keyboard Mastery	3		1
6083	Layout & Copy Preparation	2	3	3
6078	Graphic Arts Processes 2	2	3	3
		13	6	13

SEMESTER 3*

No.	Course Title	Class	Lab	Credits
3007	Chemistry of Lithography 1	3		3
6204	Offset Strip & Plate (Elective)	2	3	3
6075	Process Photography (Elective)	2	3	3
6203	Graphic Design (Elective)	2	3	3
6062	Printing Management (Elective)	3		3
6144	Production Techniques 1 (Elective)		9	3
6205	Offset Presswork 1 (Elective)	2	3	3
9136	G.A. Coop (Elective)			3
		14	21	24

SEMESTER 4**

No.	Course Title	Class	Lab	Credits
3003	Chemistry of Lithography 2	3	3	4
6145	Production Techniques 2 (Elective)		9	3
6204	Offset Strip & Plate (Elective)	2	3	3
6207	Offset Presswork 2 (Elective)	2	3	3
6206	Advanced Typography (Elective)	2	3	3
6075	Process Photography (Elective)	2	3	3
9136	G.A. Coop (Elective)			3
6237	Printing Production Mgt. (Elective)	3		3
		14	24	25

*Semester 3
Select course 6204 or 6075.
Select course 6144 or 9136.
Select 2 of 3 courses: 6203, 6062, 6205.

**Semester 4
Select course 6204 or 6075.
Select course 6145 or 9136.
Select 2 of 3 courses: 6206, 6207 or 6237.

3003 - CHEMISTRY OF LITHOGRAPHY 2 4 credits
Topics in chemistry relating to the Graphic Arts including photography and photographic processes, colors, inks and printing. Laboratory. PREREQUISITE: 3007 Chemistry of Lithography 1. *Offered Spring Semester*

3007 - CHEMISTRY OF LITHOGRAPHY 1 3 credits
A study of the fundamental principles of chemistry in relation to the properties, composition and structure of matter, the changes that matter undergoes and the laws governing these changes. Theories of chemical reactions, chemical bonding and molecular structure are covered in preparing the student for advanced study in the lithographic process. Three one-hour lectures per week. *Offered Fall Semester*

6062 - PRINTING MANAGEMENT 3 credits
This course builds a framework to aid in making correctly the many decisions which are the essence of good management of a printing plant, large or small. The principles of finance, cost control, supervision, industrial relations, estimating, pricing and planning for growth are stressed by basic theory and illustration of the application of this theory.
Offered Spring Semester

6075 - PROCESS PHOTOGRAPHY 3 credits
A lecture and laboratory course presenting the latest technical information and techniques in halftone photography consisting of conventional halftone, duotone, and various special and creative effects. The course is further designed to impress upon the student cameraman the interrelationships of his own field and that of the stripper, platemaker and press operating personnel. PREREQUISITES: 6077 and 6078.
Offered Spring Semester

6077 - GRAPHIC ARTS PROCESSES 1 3 credits
A fundamental survey of offset lithography with the objective of acquainting the student with the various techniques and procedures of this printing process. Laboratory experiences are provided in the areas of process camera operation and stripping. *Offered Fall Semester*

6078 - GRAPHIC ARTS PROCESSES 2 3 credits
A study of proofing and platemaking including critical analysis of various types of plates. Instruction includes operation of presses and related equipment to varied job specifications.
PREREQUISITE: 6077 *Offered Spring Semester*

6083 - LAYOUT AND COPY PREPARATION 3 credits
Areas of balance, proportion and proper paste-up procedures are covered. The student also gains an understanding of the tools and materials used in layout and paste-up.
Offered Spring Semester

6114 - TYPOGRAPHY AND COPY PREPARATION 3 credits
Theory and practice emphasizing craftsmanship and appreciation of typographic principles. Laboratory work includes creative projects in typographic composition for effectiveness and aesthetic value. PREREQUISITE: 6083.
Offered Fall Semester

6144 - PRODUCTION TECHNIQUES 1 3 credits
All process courses taught in the graphic arts technology program are based on progressively more difficult exercises which the student performs in order to reach a predetermined achievement level. Production technique courses are designed to provide the student with actual live-job production responsibilities in the areas of layout and type composition, camera and stripping, platemaking and presswork. PREREQUISITE: 6266. *Offered Fall Semester*

6145 - PRODUCTION TECHNIQUES 2 3 credits
A continuation of 6144. PREREQUISITE: 6144.
Offered Spring Semester

6203 - GRAPHIC DESIGN 3 credits
A course designed to further develop the student's ability to create layouts for advertising. The student gains further knowledge in the arrangements of headlines, copy blocks, photographs, art work, logotypes, borders and other typographic devices that serve as a preview for the client and a guide for the illustrator, letter artist, engraver, typesetter and printer. The lab portion of the course will acquaint the student with the mechanical operations of the typographer, artist, photographer, process cameraman and pressman in relation to what must be specified when ordering any of their services in the production of an advertisement. PREREQUISITES: 6083 and 6114. *Offered Fall Semester*

6204 - OFFSET STRIPPING & PLATEMAKING 3 credits
This course is centered on the art of assembling photographic films into the exact arrangement that will appear on the printing plates, maintaining at times accuracy of three-thousandths of an inch. The course includes detailed information and techniques utilized in both black and white and color stripping. In addition to the stripping operations, the student in this course will become involved in the producing of various types of offset plates and several methods of photo-composition, including preparation of various types of layouts and operations of photo-composing machines. PREREQUISITES: 6077 and 6078. *Offered Spring Semester*

6205 - OFFSET PRESSWORK 1 3 credits
This course includes the principles and procedures of registration, blanket and plate preparation and maintenance, operation of inking and dampening system, delivery operation and running the press. The materials also cover the common press troubles, including their recognition and solution, ink-water balance, squeeze pressures and other technical press operations and adjustments. PREREQUISITES: 6077 and 6078. *Offered Fall Semester*

6206 - ADVANCED TYPOGRAPHY 3 credits
The objective of this course is to demonstrate what typography is and particularly what it is to the modern graphic designer. The student is made aware of the many influences that have shaped modern typography, with particular emphasis on the effects of technology and contemporary art movements. Laboratory work includes creative projects in typographic composition for effectiveness and aesthetic value. PREREQUISITE: 6114
Offered Spring Semester

6207 - OFFSET PRESSWORK 2 3 credits
A continuation of Offset Presswork 1 (6705), Offset Presswork 2 allows the student to work with larger offset presses. Lab assignments are designed to give students experiences in the operation of larger offset presses including register, ink and water balance, and maintenance. PREREQUISITE: 6205.
Offered Spring Semester

6237 - PRINTING PRODUCTION MANAGEMENT 3 credits
A continuation of Printing Management (6026). The principles of production control, planning, purchasing, inventory control, scheduling, and management are stressed by basic theory and case study application to solve basic production problems. PREREQUISITE: 6062. *Offered Spring Semester*

6266 - ALPHABET KEYBOARD MASTERY 1 credit
This course covers correct typewriting techniques and the development of speed and accuracy. The course is primarily designed to teach keyboard skills for manuscript typewriting thereby preparing the student for computerized and photocomposition techniques applicable in his field.
Offered Spring Semester

CE6109 - FLEXOGRAPHY 1 3 credits
A study of the theory and practice of the flexographic printing process, the uses and development of flexography, plate and ink requirements, press principles and operation.

CE6116 - FLEXOGRAPHY 2 3 credits
A continuation of Flexography 1 stressing this printing technique on a wide variety of surfaces. The seven principal flexographic variables are further developed and studied.

CE before a course number indicates Continuing Education (offered currently only in the Evening Division).

HEAT /POWER & AIR CONDITIONING

The Heating/Power and Air - Conditioning program is unique in the sense that it is one of two such programs offered on the East Coast. An up-to-date extensive laboratory facility has been created for this course, utilizing the very latest in equipment and control devices.

Seniors who successfully complete all course requirements are awarded the Associate in Science Degree. In addition, they are given the opportunity to earn additional awards by taking the Certificate of Competency and the Stationary Engineers License examinations as administered by the Massachusetts Department of Public Safety.

Placement opportunities are excellent and varied. The Heating/Power and Air-Conditioning graduate is prepared to enter a stable, basic industry that offers career positions such as manufacturers' representatives, field service engineers, energy system detailers/designers, lab technicians, construction field estimators, sales engineers and independent businessmen.

Minimum Grade Requirement: Students must achieve a grade of "D" as the minimum passing grade in all "6000" series technical courses. A student must have earned a minimum Cumulative Quality Point average of 2.0 for graduation. Upon the successful completion of this program, the degree of Associate in Science in Heat/Power/Air Conditioning Technology will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
	Mathematics 2321, 22, 23	3		3
4073	Human Relations at Work 3	3		3
6073	Engineering Graphic 331		3	1
6020	Theory of Controls	3		3
6110	Machanical Skills and Procedures		3	1
		12	6	14

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	Composition 2: Intro. to Literature	3		3
	Mathematics 2331, 32, 33	3		3
2334	Slide Rule Math	1		1
6044	Hydronic Layouts and Construction		3	1
6040	Combustion Control Circuts	3		3
6111	Machenicel Skills and Proceduras 2		3	1
6115	Principles of Refrigeration	3		3
		13	6	15

SEMESTER 3

No.	Course Title	Class	Lab	Credits
3002	Chemistry 1	3	3	4
6041	Commercial Programming Controls	2	4	4
6042	Heating System Design	3		3
6155	Power Plant Operation 1	2	2	3
6222	Fundamentals of Air Conditioning	2	2	3
		12	11	17

SEMESTER 4

No.	Course Title	Class	Lab	Credits
1008	Technical Report Writing	3		3
6043	Adv. Heating System Design	3		3
6045	Industrial Control Applications	2	4	4
6156	Power Plant Operation 2	2	2	3
6126	Air Conditioning Laboratory	2	2	3
1007	Fundamentals of Speech	3		3
		15	8	19

6020 - THEORY OF CONTROLS 3 credits

A course designed to deal with the basic theories and concepts required by both air-conditioning and heating servicemen. Topics covered include: basic electricity, meters, principles of motor operation, transformers and relays, along with an introduction to control circuits. These basics are essential in order that an individual may comprehend the control circuits to which he will be exposed in his line of work.

Offered Fall Semester

6040 - COMBUSTION CONTROL CIRCUITS 3 credits

A combination lecture and laboratory course which presents the basic controls and control systems found in domestic hot water, steam and forced warm air heating systems. In addition, instruction is given in the wide variety of burners used by the industry, how the integral parts of these burners function and how to test & repair them. Internal and external schematic wiring diagrams are studied in detail. The laboratory allows the student to wire, safety check and fire test units, both old and new, as found in today's industry.

PREREQUISITES: 6020 Theory of Controls.

Offered Spring Semester

6041 - COMMERCIAL PROGRAMMING CONTROLS 4 credits

A combination of Control Circuits and Applications 1. Basic electronic, solid state and programming controls used in the heating industry are introduced. A number of these controls are analyzed to illustrate their operation. Industrial schematic wiring diagrams are studied and the student learns to interpret line and ladder type of diagrams. Field trips are arranged to observe control systems in operation. Laboratory experience includes installing and piping of burners, the wiring and designing of controls, with emphasis on combustion testing to meet today's pollution control requirements.

PREREQUISITE: 6040 Combustion Control Circuits.

Offered Fall Semeste:

6042 - HEATING SYSTEM DESIGN 3 credits

A combination lecture and laboratory course designed to acquaint the student with proper principles used in designing hydronic heating systems. A thorough coverage is made of heat transfer through building materials essential in the calculations of heat losses, through both residential and commercial structures. Instruction is given in the layout and construction of series loop, one pipe and reverse return hydronic heating systems. The student will develop the knowledge required to design a good, efficient hydronic system.

Offered Fall Semester

6043 - ADVANCED HEATING SYSTEM DESIGN 3 credits

A continuation of Heating System Design. Instruction is given in the layout, construction and distribution of steam heating systems. Calculations of domestic hot water requirements in residential and institutional buildings are covered in detail. Emphasis is placed on calculation of heat gain in addition to heat loss. Architectural and construction blueprint reading on light commercial and industrial structures is introduced.

PREREQUISITE: 6042 Heating System Design.

Offered Spring Semester

6044 - HYDRONIC LAYOUTS & CONSTRUCTION 2 credits

A combination lecture and laboratory program to introduce the student to the basic theories and specialized skills essential for the construction of sound, practical, functional and competitive wet heat installations. Topics include specifications and data for pipe and respective components, review of metal tubing and fittings, interpretation of basic architectural specifications and working drawings, a comparison of sample applications as they relate to current principles and practices. A summary assignment obligation to allow the student to express and illustrate individual creative layout and design. One hour lecture, three hours of laboratory.

PREREQUISITE: 6073 Engineering Graphics 331.

Offered Spring Semester

6045 - INDUSTRIAL CONTROL APPLICATIONS 4 credits

A continuation of the study of larger, more complex control systems required by certain states and insurance associations.

Emphasis is placed on studying the latest in self-checking programming controls used with gas, oil and combination gas-oil burners. The use of factory units brings this application into focus. Complete testing and servicing are emphasized. Periodically, factory representatives are invited to lecture on the latest, up-to-date equipment in this constantly changing industry. Qualified students are eligible to take the Massachusetts examination for a Commercial-Industrial license. PREREQUISITE: 6041 Commercial Programming Controls. *Offered Spring Semester*

6073 - ENGINEERING GRAPHICS 331 1 credit
A course that deals with the graphic representation of physical objects and relationships. It is designed to provide the student with fundamental knowledge of the principles of mechanical drafting and to develop necessary skills in the basic techniques of using special tools and equipment. Subjects covered include lettering, orthographic projection, dimensioning, simple scale drawings, developed surface, geometric construction and detail and assembly drawings. One hour lecture, three hours of laboratory. *Offered Fall Semester*

6110 - MECHANICAL SKILLS & PROCEDURES 1 1 credit
A course that deals with the development of the necessary fundamental technical and manual skills required in the Heating and Power, Refrigeration and Air Conditioning fields. Attention is given to current principles and practices as applied to care and use of hand tools and measuring devices; basic machine operations; tubing and piping layout and erection; threaded, soldered and welded construction; metal fabrication; equipment service and installation; fundamental electrical circuit wiring and blueprint reading. *Offered Fall Semester*

6111 - MECHANICAL SKILLS & PROCEDURES 2 4 credits
An advanced course that is predominantly a laboratory program. Instruction is directed toward the student achieving competency in specialized skill areas involving procedure, technique, experiment, application, service and test. Emphasis is placed on laboratory assignments, scheduled specifically to allow for adequate work experience. The various training phases being erection and fabrication of residential thermal devices, unit assembly of hardware components, combustion equipment installation, control safeguard selection and wiring hookup, efficiency testing of units and the documentation of results. PREREQUISITE: 6110 Mechanical Skills and Procedures 1. *Offered Spring Semester*

6115 - PRINCIPLES OF REFRIGERATION 3 credits
The practice of refrigeration is based upon two well-known principles of physics. The design and operation is based on the principles of thermodynamics, a branch of physics which involves the study of heat energy, while the actual process of cooling an enclosed space draws on knowledge from a branch of physics called psychrometry. Therefore, a theoretical treatment of such concepts as; temperature, total heat, density, specific gravity, pressure, energy, work and power is presented. Attention is then directed to psychrometry. A thorough knowledge of the properties of air; dew-point, wet-bulb, dry-bulb, moisture, relative humidity is essential. A study is then made of the refrigerants, their properties and characteristics used in refrigeration, covering pressure-temperature relationships, boiling and freezing points and heat capacities with extensive use of tables and curves.
Offered Spring Semester

6126 - AIR-CONDITIONING LABORATORY 3 credits
Analyzing, trouble shooting and servicing refrigeration and air-conditioning systems are emphasized in this semester. Electric, pneumatic controls and protection devices: freezstats, thermostats, capacitors, low oil, high and low head pressure cut-outs and compressor overload devices are studied in detail. Cooling towers, both mechanical and natural draft with parabolic designs are featured, as is water chemistry with chill and condenser water treatment including; rust inhibitors, algae control and filtering processes. PREREQUISITE: Fundamentals of Air-Conditioning (6222).
Offered Spring Semester

6155 - POWER PLANT OPERATION 1 3 credits
Power plant engineering is a science based on those fundamental principles which underlie chemistry and especially the branches of physics known as "Thermodynamics, Heat Transfer, Fluid Mechanics and Mechanics." A knowledge of the properties of Air, Water and Steam is essential to the understanding of the operation of power plant equipment, as is Fuels, Combustion and Fuel-gas analysis. Steam Tables, Calorimeters, Orsat testers and other testing devices are used. Boilers, boiler auxiliaries and accessories are studied and viewed in actual operation in local power plants. *Offered Fall Semester*

6156 - POWER PLANT OPERATION 2 3 credits
With the principles learned in Power Plant Operation 1, this course is designed to involve the operation, maintenance, code requirements and the efficiencies of power plants. Attention is directed to steam generator construction, safety devices, pumps, feedwater heaters, piping systems and traps. Boiler feedwater treatment has become a scientific chemical procedure to condition the boiler water preventing scale, corrosion, caustic embrittlement, priming and foaming that causes carry-over. Preparation is made for a Massachusetts State Operator's license and a N.I.U.L.P.E. PREREQUISITE: Power Plant Operation 1 (6155). *Offered Spring Semester*

6222 - FUNDAMENTALS OF AIR-CONDITIONING 3 credits
With the Principles of Refirgeration mastered, a detailed analysis of the refrigeration cycle is made. The "Compression" cycle with its componants: Compressor, Condenser, Metering Devices, Evaporator, and the "Absorption" cycle with its components: Generator, Absorber, Evaporator, and their pumps and controls. Refrigeration tools: gage manifolds, charging cylinders, vacuum pumps, leak detectors and others are demonstrated and used in a laboratory atmosphere. Environmental conditioning including: Temperature, Humidifying, Dehumidifying, Air Distribution, Filtering and the calculations of these requirements being determined. PREREQUISITE: 6115 Principles of Refrigeration.
Offered Fall Semester

LANDSCAPE TECHNOLOGY

Students enrolled in this program will receive a broad base in the development and maintenance of land areas. Topics ranging from plant identification and use, tree and landscape maintenance, to landscape design and construction are included as part of the curriculum. The importance of qualified field personnel is stressed throughout the program. Students will be given an appreciation and understanding of the effects that can be created by well-planned landscape design and maintenance.

Graduates may be employed by nurseries, landscape contractors, private and public parks and by business firms as grounds maintenance specialists. With the rapid development of more complex and varied materials and equipment for use in this field, there is an increasing need for properly trained personnel to fill responsible positions, both in field work and in planning and management.

Minimum Grade Requirement: All Landscape Technology courses shall be completed with a grade of "D" (63 or 1.0) or above. Any course failed must be repeated before graduation and each course may be repeated only once. In addition, the student shall have achieved a 2.0 Q.P.A. and shall have remained in good academic standing as outlined below:

A. At the beginning of second semester, the student must maintain a 1.5 Q.P.A.

B. At the beginning of third semester, the student must maintain a 1.7 Q.P.A.

C. At the beginning of fourth semester, the student must maintain a 1.9 Q.P.A.

A student not meeting the above academic standards will be placed on academic probation for one semester. If at the end of this period no improvement has taken place, the student will be removed from the program. Upon the successful completion of this program, the degree of Associate in Science in Landscape Technology will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	Eng. Comp. 1	3		3
4073	Human Rel. at Work 3	3		3
	Mathematics 232, 22, 23	3		3
3025	Entomology/Disease Control	2	2	3
6088	Prin. of Horticulture	2	3	3
		13	5	15

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	Eng. Comp. 2	3		3
3002	Chemistry 1	3	3	4
3022	Trees in the Landscape	1	4	3
6140	Presentation Techniques		6	3
xxxx	Humanities Elective (or completion of Math Requirement)	3		3
		10	13	16

SEMESTER 3

No.	Course Title	Class	Lab	Credits
3023	Shrubs in the Landscape	1	4	3
6086	Landscape Design 1	1	4	3
6089	Landscape Operations	2	2	3
6090	Arboriculture	2	2	3
6093	Surveying 721	1	4	3
xxxx	English Elective	3		3
		10	16	18

SEMESTER 4

No.	Course Title	Class	Lab	Credits
3024	Turf Management	2	2	3
6085	Plant Propagation	2	2	3
6087	Landscape Design 2	1	4	3
6094	Earth Forms & Structures	2	2	3
5029	Small Business Management	3		3
		10	10	15

3022 - TREES IN THE LANDSCAPE 3 credits

A course dealing in tree identification and use, as related to landscape work. Important types, both native and introduced, are discussed. Limited to trees generally hardy in the New England area. Representative types are discussed in detail during laboratory sessions. Lectures deal with general topics concerning tree use. Field trips, both on and off campus, are used to view the trees discussed. One hour lecture, two two-hour labs. *Offered Spring Semester*

3023 - SHRUBS IN THE LANDSCAPE 3 credits

A continuation of Botany 2, covering the identification and use of the commonly used native and introduced shrubs and vines in this area. Emphasis is placed upon the best use of the types involved. Lectures are concerned with utilization of plant features such as flowers and fruits and with effects of the environment on the plants discussed. Laboratories are used for the discussion of specific plants. One hour lecture, two two-hour labs. *Offered Fall Semester*

3024 - TURF MANAGEMENT 3 credits

The study and identification of turf grasses as used in the New England area. Much emphasis is placed upon the best use of the types involved. Topics in lectures include soil and fertilization requirements, drainage and irrigation, best turf types, grass and seed identification, maintenance and renovation, and disease and insect control. The laboratories are involved in soil testing, turf growing, maintenance techniques and field trips. Two hour lecture, one two-hour lab. *Offered Spring Semester*

3025 - ENTOMOLOGY/DISEASE CONTROL 3 credits

An introduction to the study of insects and diseases affecting ornamental plants. Both identification and eradication of common plant pests will be discussed. Cultural and biological means of control, rather than the use of chemicals will be stressed. *Offered Fall Semester*

6085 - PLANT PROPAGATION 3 credits

A course dealing with the procedures used in propagating and growing plant materials. Lectures deal with the theoretical aspects of growing and the laboratories are devoted to greenhouse and field work. Several field trips are taken to commercial nursery operations in the area. Two hour lecture, one two-hour laboratory. *Offered Spring Semester*

6086 - LANDSCAPE DESIGN 1 3 credits

A course in residential landscape design stressing basic design techniques and elements. Topics covered in lecture are line, shape, form, texture, pattern, color, the processes of design, the development of ourdoor spaces and design presentation. Design problems in lab deal with entry ways, driveways, outdoor living areas, play areas, private gardens and the orientation of structures on the site. PREREQUISITE: 6140. *Offered Fall Semester*

6087 - LANDSCAPE DESIGN 2 3 credits

A continuation of Land Design 1 stressing presentation and analysis. The areas dealt with are urban shopping and business spaces, small office building, schools and playgrounds, and parking areas. PREREQUISITE: 6086. *Offered Spring Semester*



6088 - PRINCIPLES OF HORTICULTURE 3 credits
A basic course in general horticulture, introducing the student to the fundamentals of soil study and use, insect and disease control and plant production techniques. The lectures cover the theoretical aspects of horticulture and the laboratories are used for field trips and practical work. *Offered Fall Semester*

6089 - LANDSCAPE OPERATIONS(PLANTING) 3 credits
This course deals with the principles involved in estimating, carrying out and maintaining landscape work. The lectures are used to introduce and discuss the work areas involved and laboratory time is spent in moving and planting trees and shrubs, estimating work and the use and maintenance of machinery used in this type of work. Two hour lecture, one two-hour laboratory. *Offered Fall Semester*

6090 - ARBORICULTURE 3 credits
A course dealing with the basic aspects of arboriculture. The lectures are concerned with tree growth and maintenance and the laboratories are used to instruct in tree climbing, pruning and repair and feeding techniques. Two hour lecture, one two-hour laboratory. *Offered Fall Semester*

6093 - SURVEYING 721 3 credits
A course teaching the basic surveying operations used in landscape work. The use of simple instruments such as tapes and hand levels is covered first followed by study of transits and construction levels. Mapping and contour studies are carried out and the use of surveying in typical landscape operations is stressed. *Offered Fall Semester*

6094 - EARTH FORMS AND STRUCTURES 3 credits
A study of the equipment, materials and methods used in constructing landscape features such as walls, walks, drives, fences and terraces. Considerable field work is involved, in which the students lay out and construct features as mentioned above. Two hour lecture, one two-hour laboratory. PREREQUISITE: 6093 Surveying 721.
Offered Spring Semester

6140 - PRESENTATION TECHNIQUES 3 credits
A course in mechanical drafting, stressing the media and techniques commonly used in the preparation of landscape plans. The use of instruments, lettering and line technique is covered first, followed by the development of isometric and perspective drawings. Working in 3-dimensions is stressed, so that the student may best visualize spatial relationships in future landscape design courses. Three two-hour labs.
Offered Spring Semester

LASER ELECTRO-OPTICS TECHNOLOGY

Laser Electro-Optics Technology is one of the more rapidly growing technical fields in America today. The trained technician can expect favorable job opportunities, promotion potential and rapid advancement.

STCC's program is designed to expose the student to four major areas: Laser Systems, Electronics, Optics and Electro-Optics.

The student will learn about the laser both as an instrument and as an integral part of a system designed for industrial, medical and scientific application.

The electronics used in generating and controlling the laser will be taught. The use of the laser in electronics production, testing, maintenance, research and development is part of the curriculum.

In the field of optics, the student will acquire a good working knowledge of light, geometrical and physical optics, optical components and optical systems.

Finally, the student will devote a large portion of his time to incorporating optical and laser skills and knowledge into developing Electro-Optical Techniques and Systems.

Minimum Grade Requirement: Students must receive a grade of "D" or better. A Q.P.A. of 2.0 must be achieved for graduation. Upon the successful completion of this program, the degree of Associate in Science in Laser Electro-Optics Technology will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
	Mathematics 2331, 32, 33	3		3
2334	Slide Rule Meth	1		1
4073	Human Relations at Work	3		3
6019	Basic Electronics 1	3		3
6178	Electronics Lab 1		4	2
6239	Grephics for Elect. Tech.	1	2	2
		14	6	17

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	English Composition 2	3		3
	Mathematics 2341, 42, 43	3		3
6024	Basic Electronics 2	3		3
6035	Semiconductor Circuits 1	3		3
6179	Electronics Lab 2		4	2
3012	Physics	3	3	4
		15	7	18

SEMESTER 3

No.	Course Title	Class	Lab	Credits
1008	Technical Report Writing	3		3
6027	Computer Concepts and Logic Cir.	3		3
6365	Introduction to Lasers	3	3	4
6366	Geometrical Optics	3	3	4
6212	Semicond. Circuits 2	3		3
		15	6	17

SEMESTER 4

No.	Course Title	Class	Lab	Credits
6367	Laser Electro-Optics Components	3		3
6368	Wave Optics	3	3	4
6039	Integrated Electronics	3		3
6369	Laser Projects	3	3	4
		12	6	14

6365 - INTRODUCTION TO LASERS 4 credits

Elements of a laser, operation of a helium-neon gas laser, laser physics, optical cavities, properties of laser light, survey of laser systems. *Offered Fall Semester*

6366 - GEOMETRICAL OPTICS 4 credits

Reflection and refraction of light, graphical ray tracing techniques, f-stops and apertures, imaging with a single lens, types of lenses, primary and secondary focal points, thin lens equation, imaging with multiple lenses, simple optical systems (microscopes, telescopes, collimators). *Offered Fall Semester*

6367 - LASER ELECTRO-OPTIC COMPONENTS 3 credits

Optical tables and benches, component support, properties and uses of filters, optical windows, beamsplitters, etalons, mirrors, lenses, polarizers, gratings, photographic supplies and non-linear materials. *Offered Spring Semester*

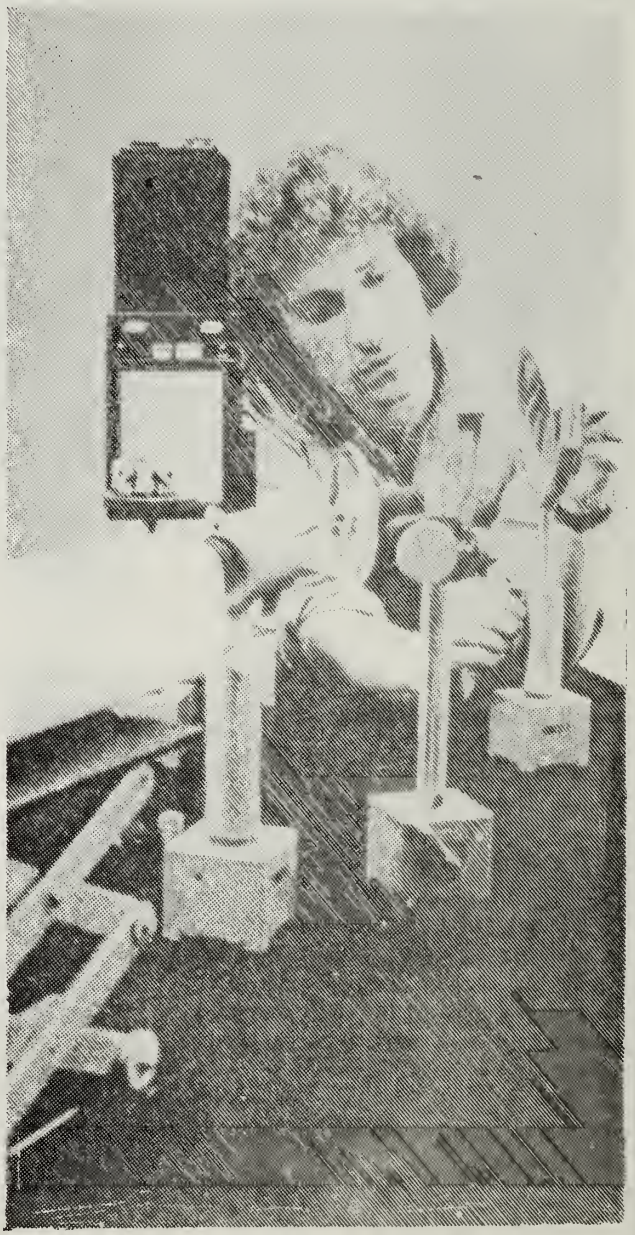
6368 - WAVE OPTICS 4 credits

Light as an electromagnetic wave, light sources, radiometric units, absorption, scattering, interference, diffraction, holography and polarization. *Offered Spring Semester*

6369 - LASER PROJECTS 4 credits

Construction and testing of a laser, optical or electro-optic device such as a helium-neon laser, cw-pumped nd:yag laser, co2 laser, optical power meter, autocollimator, ied communications link or photomultiplier power supply. Maintaining a laboratory notebook required.

Offered Spring Semester



MACHINE DESIGN TECHNOLOGY

This program prepares the graduate as an Engineering Aide or Technician in the fields of mechanical, industrial and manufacturing engineering. The program develops the necessary background in Mathematics, Engineering Graphics, Physics, Chemistry, Strength of Materials, Fluid Power and Design Principles. To qualify in the fields listed above, graduates are employed as detail draftsmen, tool and machine designers, laboratory assistants in research and development, sales engineers and field representatives.

In the design laboratory, the student is given the opportunity to use his initiative and creative ability in designing machines and tool complexes of his own. Since a background in high school Algebra, Physics, Mechanical Drawing and Chemistry is required in the first semester, these courses must be prerequisites.

Minimum Grade Requirement: For all "6000" series technical courses a grade of "D" (1.3) or better will be required. A 2.00 Q.P.A. will be accepted for graduation. Upon the successful completion of this program, the degree of Associate in Science in Machine and Tool Design Technology will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credit
1004	English Comp 1	3		3
	Mathematics 2321-23	3		3
4073	Human Relations at Work	3		3
6342	Production Process	3		3
6065	Machine Design 1	3	3	4
		15	3	16

SEMESTER 2

No.	Course Title	Class	Lab	Credit
1008	Technical Report Writing	3		3
	Mathematics 2331-33	3		3
6268	Mechanism	3		3
3012	Physics 1	3	3	4
6113	Machine Design 2	3	3	4
		15	6	17

SEMESTER 3

No.	Course Title	Class	Lab	Credit
6009	Fortran for Technologies	3		3
2015	Statistics and Quality Control	4		4
6058	Strength of Materials	4		4
6064	Industrial Materials	3		3
6066	Machine Design 3	3	3	4
		17	3	18

SEMESTER 4

No.	Course Title	Class	Lab	Credit
6150	Fluid Power	3	2	4
6067	Machine Design 4	3	3	4
6381	Engineering Economy	3		3
6384	Machine Shop Estimating	3		3
6386	Project Design Lab		3	2
		12	8	16

6058 - STRENGTH OF MATERIALS 4 credits

A study of forces and force systems and their applications to materials. Stress and strain produced by the application of forces on beams, columns, trusses, and riveted and welded sections are studied for simple tension, compression and shear. Laboratory experiments provide experience in measuring and calculating stresses produced for conditions of tension, compression, shear, bending and torsion.

Offered Fall Semester

6064 - INDUSTRIAL MATERIALS 3 credits

An introduction to engineering materials and their properties. Emphasis is placed on the factors that determine material properties and the process by which these properties can be changed in a controlled manner. Materials covered include steel, cast iron, non-ferrous metals and alloys, plastics, rubber and some other non-metallics. *Offered Fall Semester*

6065 - MACHINE DESIGN 1 4 credits

Principles detailing parts, orthographic projection line definitions are reviewed. Areas pertaining to interchangeable manufacting covering limits, fits tolerance analysis and surface finishes are covered in detail. Simple parts drawings are made along with callout of any specific note requirements for manufacture. PREREQUISITE: High School Algebra.

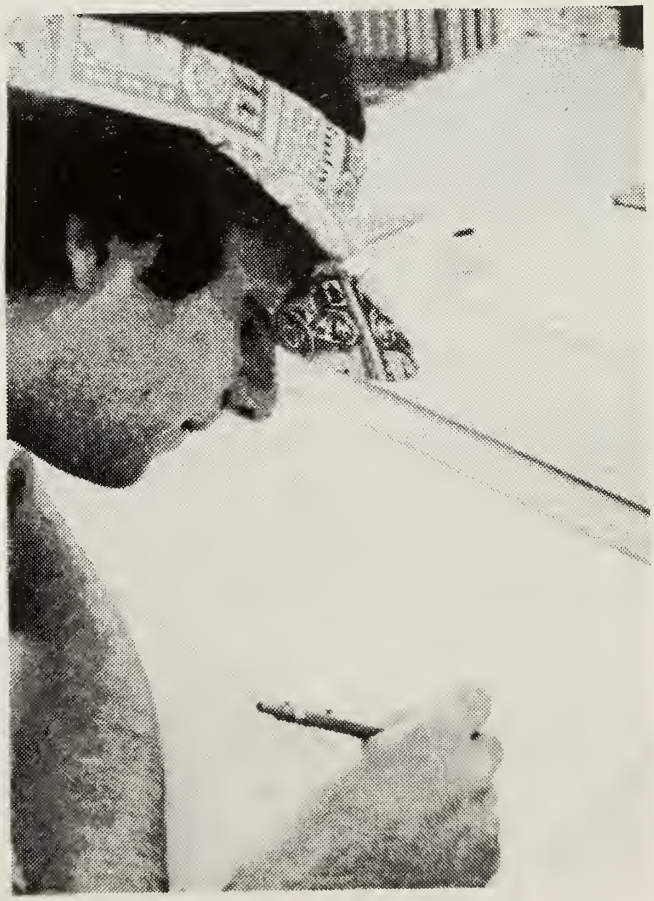
Offered Fall Semester

6113 - MACHINE DESIGN 2 4 credits

More complex components are detailed and studied along with sub-assembly work, bills of material and other pertinent information in regard to preparation of design of a complete machine. PREREQUISITE: 6065. *Offered Spring Semester*

6066 - MACHINE DESIGN 3 4 credits

Machine Design principles are studied and methods of calculating the required size and shape of various machine parts are developed. Selection of proper material is given consideration, stress, strain, design stresses, keys and fasteners, threaded members, welded and riveted connections and shafts are considered. The principles of motions, velocities, accelerations of various linkages are considered. PREREQUISITE: 6113. *Offered Fall Semester*



6067 - MACHINE DESIGN 4 4 credits

The course involves the study of disk and cylindrical cams, gears, gear trains, pulleys and couplings. Interference, contact ratio, strength and dynamic loading of gears are considered and simple reverted, compound and epicyclic gear trains are worked out in detail. The student is given the opportunity to integrate knowledge acquired during the machine design program by carrying out projects in which he designs complete machines or sub-assemblies. He is required to analyze the problem, gather pertinent information, carry out the necessary mathematical operations, make working drawings and check his work. Throughout the course, he is encouraged to use his own judgment and initiative to the maximum extent possible. Students meet for two one-hour lectures and two three-hour labs per week. PREREQUISITE: 6066.

Offered Spring Semester

6150 - FLUID POWER 3 credits

The basic theory of both hydraulics and pneumatics is developed in relation to either driving or controlling industrial machinery. Fluid power equipment is discussed from the standpoint of application. Skill is developed in the layout and understanding of fluid power circuits. PREREQUISITES: 2331, 2333. *Offered Spring Semester*

6232 - FORTRAN FOR TECHNICIANS 3 credits

This course is designed to offer an introduction to the computer language Fortran. The content of the course will include a brief introduction to the general theory of digital computers as well as fortran programming. Fortran will be studied as an example of a computer language. Special attention will be placed upon using Fortran as a powerful tool in solving a number of diverse problems drawn from science and engineering. PREREQUISITES: 2311-13.

6381 - ENGINEERING ECONOMY 3 credits

This course is designed to acquaint the student with the various alternates in any given situation. The student will become familiar with how to evaluate alternate engineering situations. The effects of capital, how to determine which way to go, break-even analysis, costs associated with money, equipment depreciation and tax benefits and the various types of costs associated with a business. *Offered Spring Semester*

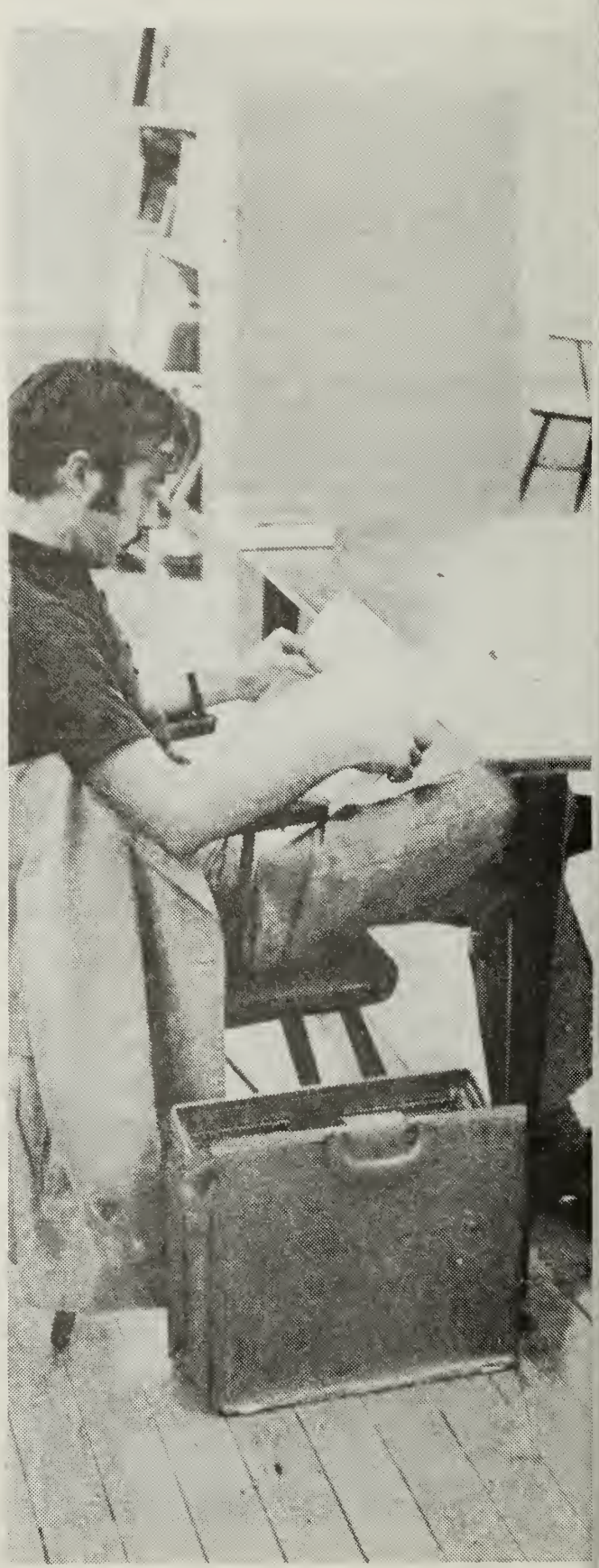
6384 - MACHINE SHOP ESTIMATING 3 credits

The student will become familiar with the methods associated with costing out an item or assembly. He will also become familiar with not only fixed costs, but the varying costs on overhead, general and administrative and the designed profit level. Break-even costs will also be discussed and analyzed related to a business. *Offered Spring Semester*

6386 - PROJECT DESIGN LAB 2 credits

The student will have the opportunity to put together all his knowledge obtained on various projects assigned by the instructor. He will do the design and rectify by calculations and computations in relationship to this along with the economical aspects. PREREQUISITE: 6066.

Offered Spring Semester



HEAT/POWER & AIR CONDITIONING — SOLAR ENERGY OPTION

Fuel shortages to provide the energy needs of the country have resulted in the search for alternative energy sources. Although not a new concept, the use of the sun to provide energy has become increasingly popular in the last few years.

It is estimated that within a short period of time, packaged solar systems will be in mass production. Solar energy as an alternative to today's fuels will become a reality in the not too distant future.

Allied to this anticipation growth will be the need for trained technicians in the solar energy field. Successful graduates of the Solar Energy Option will be qualified to install complete water or air-based solar collector heating systems in new or existing structures. Also, graduates will be able to determine, through on-site inspection, the least expensive combination of solar collectors, thermal reservoir, insulation and back-up burners for any structure. In addition, the student will learn to evaluate the cost/effectiveness of new solar collector technologies.

Various positions awaiting the Solar Energy Option graduate are: solar panel manufacturers representative; field service engineer (solar); solar energy system detailer/designer; construction field estimator; solar system sales engineer and energy consultant. Upon the successful completion of this program, the degree of Associate in Science in Heat/Power/Air Conditioning Technology will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credit
1004	English Comp 1	3		3
	Mathematics 2321-23	3		3
4073	Human Relations at Work	3		3
6073	Engineering Graphics 331		3	1
6020	Theory of Controls	3		3
6110	Mechanical Skills and Proced.1		3	1
		12	6	14

SEMESTER 2

No.	Course Title	Class	Lab	Credit
1005	English Comp. 2	3		3
	Mathematics 2332-33	3		3
2334	Slide Rule Math	1		1
6044	Hydronic Layouts and Const.		3	1
6040	Combustion Control Cir.	3		3
6111	Mechanical Skills and Proced. 2		3	1
6115	Princ. of Refrigeration	3		3
6370	Intro Alternate Energy	2		2
		15	6	17

SEMESTER 3

No.	Course Title	Class	Lab	Credit
3002	Chemistry 1	3	3	4
6041	Commercial Program Controls	2	4	4
6042	Heating System Design	3		3
6222	Fundamentals of Air Conditioning	2	2	3
6371	Solar Energy 1	3		3
		13	9	17

SEMESTER 4

No.	Course Title	Class	Lab	Credit
1008	Technical Report Writing	3		3
6043	Adv. Heating System Design	3		3
6045	Industrial Control Applications	2	4	4
6126	Air Conditioning Lab	2	2	3
1007	Fundamentals of Speech	3		3
6372	Solar Energy 2	2	4	4
		15	10	20

6370 - INTRODUCTION TO ALTERNATIVE ENERGY SYSTEMS 2 credits

A survey of currently practical alternative energy conversion schemes with emphasis on solar collectors. The course begins with a review of global energy use and availability which quantifies the long-term need for conservation and utilization of renewable energy resources. The theory, operation and potential of various proposed large scale energy converters will be considered, including solar, geothermal, ocean thermal differences, wind, wave, ocean current and biogas systems. The problems of energy storage and distribution will be covered for each system. Special details of solar systems will include insulation, solar angles, meteorological data, re-radiation, heat storage and thermal transfer. *Offered Spring Semester*



6371 - SOLAR ENERGY 1 3 credits

A detailed course on the theory and application of various flat plate solar thermal collector systems. The efficiency, expected output, optimum configuration and longevity of specific collectors will be covered. The techniques of energy storage and the need for fossil fuel back-up heaters will be considered. Students will learn to assess a building's energy needs and to plan the lowest cost combination of conservation, solar-based heating and fossil fuel back-up. The details and relative merits of both air and water-based systems will be thoroughly covered. *Offered Fall Semester*

6372 - SOLAR ENERGY 2 4 credits

A practical course in which students will learn to install complete solar collector systems and their associated controls. Special problems encountered in retrofitting existing buildings with solar equipment will be illustrated with site visits. Students will gain experience in using instrumentation to evaluate collector performance so that they can keep abreast of new developments in this rapidly growing field. *Offered Spring Semester*

TELECOMMUNICATIONS TECHNOLOGY

This program is designed to provide students with an excellent opportunity to pursue a viable career in mass media communications. Graduates of this program will qualify for production, programming, or managerial positions in local radio and television stations and cable television stations, and in industry, education and medicine where television is utilized.

Minimum Grade Requirement: The minimum grade for major courses in the Telecommunications Technology program is "C." All students must maintain a "C" plus average in order to be awarded a degree in Production Technician. Upon the successful completion of this program, the degree of Associate in Science in Telecommunications will be awarded.

SEMESTER 1

No.	Course Title	Class	Lab	Credit
6275	Video Techniques	3		3
6276	Communication in Today's World	3		3
4086	Introduction to Psychology	3		3
6277	Video Production	3		3
1110	Fundamentals In TV Writing	3	2	4
1004	English Comp 1	3		3
		18	2	19

SEMESTER 2

No.	Course Title	Class	Lab	Credit
1109	Advanced TV Writing	3		3
4008	Introduction to Sociology	3		3
6278	TV Prod. and Diracting	3		3
6279	Speaking on TV	3		3
6280	Analy. of Commarcial & Public TV	3		3
		15		15

SEMESTER 3

No.	Course Title	Class	Lab	Credits
6320	Instructionel TV Techniques	3		3
6321	TV Journalism	3	3	4
6322	TV Prod. Practicum		6	3
4014	Introduction to Economics	3		3
4093	Industrial Psychology	3		3
		12	9	16
6333	*Television Honors (Optional for those who qualify)	4		4

SEMESTER 4

No.	Course Title	Class	Lab	Credits
6323	Adv. Instr. Television	3	1	3
6324	Adv. TV Journalism		5	2
6330	Adv. TV Prod. Practicum		6	3
5050	Principles of Menagemant	3		3
6332	Cable Television	3		3
		9	12	14
6334	*Television Honors (Optional for those who qualify)	4		4

1109 - ADVANCED TV WRITING 3 credits

This course is devoted to script writing for production. What is produced will be considered airable. Much of the class time is devoted to writing, based on exercises designed and offered by the instructor. Student scripts are performed and video-taped.

Offered Spring Semester

1110 - FUNDAMENTALS IN TV WRITING 4 credits

In this course students learn the fundamental principles of writing for television. Writing for drama, commercials, news, public affairs are covered. Students are taught how to write straight, still picture and moving picture copy. The traditional video cues for directors are also taught. Students in this course do a considerable amount of writing. *Offered Fall Semester*

6275 - VIDEO TECHNIQUES 3 credits

This course will provide an overview of what is entailed in producing programs. The logistics, economics, traffic, direction, writing, stage management and hardware manipulation involved in TV production will be covered. In this course the student should begin to gain some objective idea as to where his strengths and weaknesses lie in TV production. *Offered Fall Semester*

6276 - COMMUNICATING IN TODAY'S WORLD 3 credits

In this course the wide spectrum of communications — from interpersonal to space communications satellite — is explored. The question as to how good human relations helps to develop good TV programming is examined. The course also deals with the nature of television, exposing its acknowledged attributes. Understanding the nature of TV can help a professional channel the power of television in directions that will help and not hurt viewers. It is hoped those who take this course will develop a respect for TV's potential power.

Offered Fall Semester

6277 - VIDEO PRODUCTION 3 credits

In this course the student learns that TV production is not limited to VHF, UHF and network programming. It acquaints the student with educational, industrial and medical television. The fundamentals and principles of producing TV programming for those areas are explored. Simple productions in the three areas are produced in class. Students are exposed to speakers from the three areas. *Offered Fall Semester*

6278 - TV PRODUCING AND DIRECTING 3 credits

A course dealing with the principles of producing and directing. The responsibilities of the producer are explored. So are those of the Director. How both operate within the outside a TV studio is covered. Special exercises are given to the students in order to sharpen their producing and directing reflexes. Midway through the course, the students are given a script to produce and direct as a video tape production. There will be student critiquing of every production.

Offered Spring Semester

6279 - SPEAKING ON TV 3 credits

Essentially a speech course, but geared to television presentation. The student learns how to communicate to an audience while on camera. Doing commercials, the news, interviewing, hosting panels are stressed. The micro teaching method is employed to evaluate each student's performance.

Offered Spring Semester

6280 - ANALYSIS OF COMMERCIAL & PUBLIC TV 3 credits

This course explores the anatomy of both commercial and public television, checking out their history, their societal committments, how they function and how they subsist. Their difference and similarities are exposed. Some practical tips as to how to succeed in both sectors are offered.

Offered Spring Semester

6320 - INSTRUCTIONAL TELEVISION TECHNIQUES 3 credits

In this course, students learn the fundamentals of producing, writing and directing instructional TV material. The mistakes often made by entertainment TV producers who venture into instructional TV are isolated and examined. Students produce one TV instructional program for either education, industry or medicine. Successful production produced in three areas are studied. *Offered Fall Semester*

6321 - TV JOURNALISM 4 credits

The fundamentals in editing (assignment development and newscast production), writing and rewriting, producing are stressed. So is learning how to capture news with film and video tape. Reporting and interviewing exercises are offered. Students produce a weekly TV newscast. Through this course students learn to compile information and collate it, unearth evidence and appraise it, budget their time and energy and develop an appreciation for accuracy. This is a workshop course. *Offered Fall Semester*

6322 - TV PRODUCTION PRACTICUM 3 credits

This course is taken at WGBY-TV (on campus) or any other broadcasting, cable, industrial, medical or educational TV center. Students work studio cameras, learn to operate video tape machine, work on console board, learn to operate slide and film chain machines. The station's professional staff teaches this course. *Offered Fall Semester*

6333 & 6334 - TV HONORS (2 courses) 4 cr. each

This course is open to eight students. They produce video tapes prepared by faculty. The students are divided into two groups of four each. Each group constitutes a production team. They produce two instructional TV presentations a week. During the semester each member of a team has experience working as a producer-director, cameraperson, floor manager. The groups are responsible for dubbing, filing finished productions. The presentations are produced at STCC's TV center. To qualify for this course, a student must have an A or B+ in his major.

6323 - ADVANCED INSTRUCTIONAL TV 3 credits

In this course, a student finds an educational, industrial or medical institution that does not use instructional TV — but which can benefit from it. The student must explain in writing how instructional TV would benefit the institution. He/She also drafts a sample TV script of a program that can help that institution. Their scripts are sent to their selected institution. Each student spends 12 hours working at the Massachusetts Mutual Life TV studio. *Offered Spring Semester*

6324 - ADVANCED TV JOURNALISM 2 credits

A workshop course. More advanced production techniques incorporated in a weekly TV Newscast which is aired to the student body and faculty. *Offered Spring Semester*

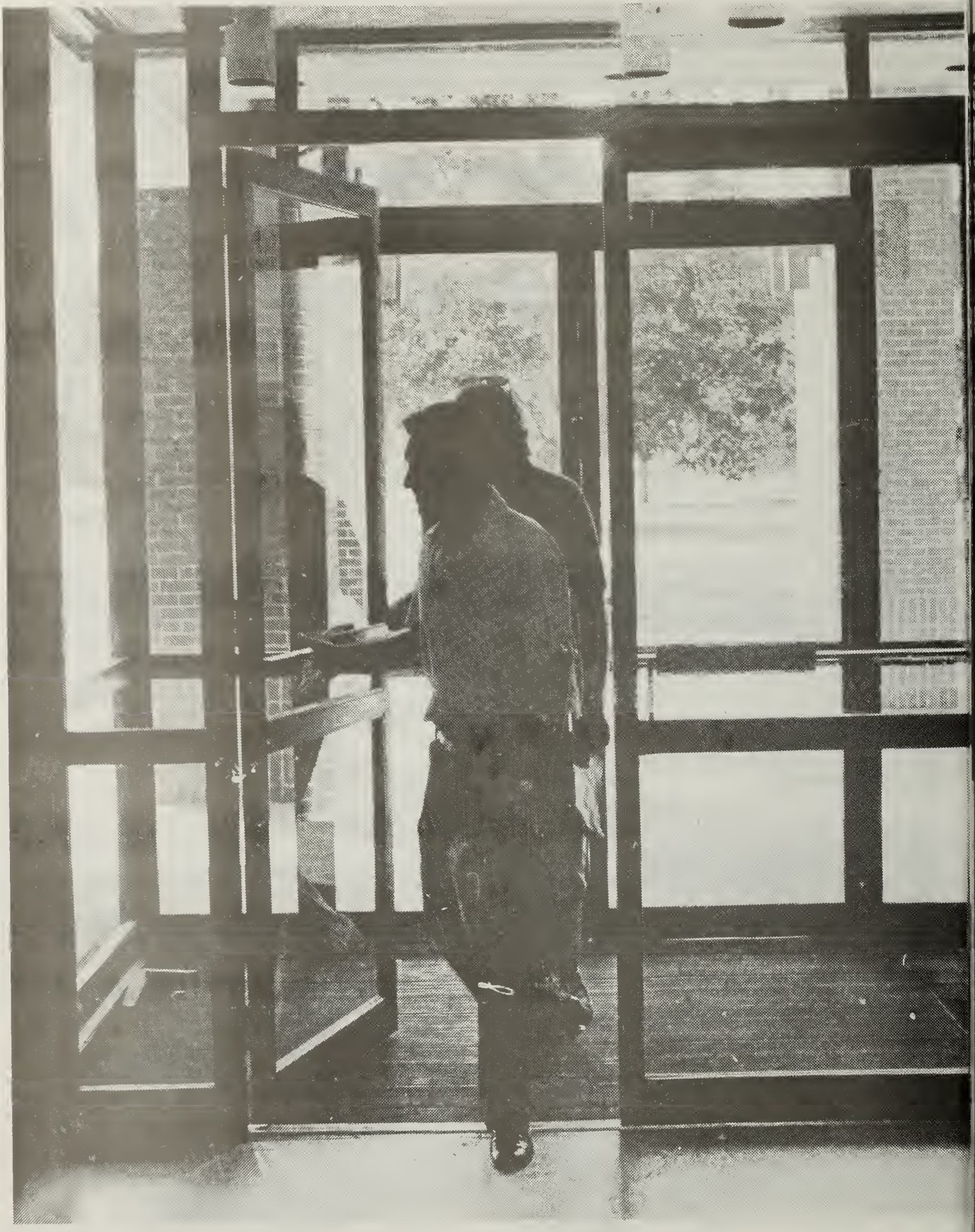
6330 - ADVANCED TV PRODUCTION 3 credits

Working as a production assistant on WGBY's regular TV shows, or working in a similar capacity at channels 22 and 40, or any other broadcasting, cable, industrial, medical or educational TV center. *Offered Spring Semester*

6332 - CABLE TELEVISION 3 credits

A course dealing with the history, business, technical structure of CATV. It deals also with the programming potential of cable TV and how it can serve a community. Leading CATV figures address the class. Students learn what kind of programming approach is best for CATV. The differences in broadcasting and cable TV programming approach are explored. *Offered Spring Semester*





Engineering & Science Transfer

ENGINEERING & SCIENCE TRANSFER

ENGINEERING & SCIENCE TRANSFER PROGRAM

The Engineering and Science Transfer Programs at STCC are for individuals who are interested in earning a Bachelor of Science Degree in one of the Engineering disciplines (Chemical, Civil, Electrical, Environmental, Industrial or Mechanical Engineering) or in Biology, Chemistry, Mathematics, Physics, or Pre-Medicine/Pre-Dentistry/Pre-Veterinary.

Each of these curricula provides a student with a fundamental background in science, mathematics and the humanities, and supplements it with technical electives from the principle engineering and science disciplines. They permit a student to earn his Associate's Degree in two years and to transfer to a four-year college or university with a junior level standing.



All students must take the SAT Examination and have the scores submitted with their application in order to be considered for admission to any option of the Engineering and Science Transfer Program.

ENGINEERING TRANSFER

SEMESTER 1

No.	Course Title	Class	Lab	Cre
2350-53	Mathematics (Engr. Calculus 21)	6		
3005	General Chemistry 21	3	3	
6241	Prog. Engineering Graphics Mod. 1		3	
6154	Intro. to Engineering 21	2	3	
1004	English Composition 1	3		
xxxx	Social Science Elective	3		
		17	9	

SEMESTER 2

No.	Course Title	Class	Lab	Cre
2354-57	Mathematics (Engr. Calculus 22)	6		
3006	General Chemistry 22	3	3	
3015	Physics 21	4	3	
6175	Intro. to Engr. 22 Comp. Programming	3		
1005	English Composition 2	3		
		19	6	

SEMESTER 3

No.	Course Title	Class	Lab	Cre
2358-61	Mathematics (Engr. Calculus 23)	6		
3016	Physics 22	4	3	
xxxx	Technical Elective	3		
xxxx	Social Science Elective	3		
xxxx	Elective	3		
		19	3	

SEMESTER 4

No.	Course Title	Class	Lab	Cre
2362-65	Mathematics (Engr. Calculus 24)	6		
6224	Engineering Measurements & Analysis (OR) Technical Elective	2	3	
xxxx	Technical Elective	3		
xxxx	Social Science Elective	3		
xxxx	Elective	3		
		17	3	

By choosing the appropriate Technical and General Electives in the 3rd & 4th semesters, a student can major in Chemical, Civil, Electrical, Environmental, Industrial, or Mechanical Engineering.

MINIMUM GRADE REQUIREMENTS: A full-time student in any of the curriculum options of the Engineering and Science Transfer Department must complete at least 75% of the mathematics, science, and technical (6000 series) courses that are prescribed by his curriculum for the given semester in which the student is enrolled. Any student not meeting these requirements will be dropped from the program. Reinstatement will be permitted only after the student, either through another college or through STCC's Division of Continuing Education has completed all of the required mathematics, science, and technical courses required by his curriculum at the time of his dismissal.

A student enrolled in the Pre-Engineering Option of General Studies must have a cumulative B- average in his mathematics and science courses. Failure to achieve this average will prohibit the student from transferring to any of the options in the Engineering and Science Transfer Department.

BIOLOGY OPTION

SEMESTER 1

No.	Course Title	Credits
2350-53	Mathematics (Engr. Calculus 21)	4
3005	General Chemistry 21	4
3080	Biology 1	4
1004	English Comp. 1	3
4008	Intro. to Sociology	3
		18

SEMESTER 2

No.	Course Title	Credits
2354-57	Mathematics (Engr. Calculus 22)	4
3006	General Chemistry 22	4
3081	Biology 2	4
1005	English Comp. 2	3
4086	General Psychology	3
		18

SEMESTER 3

No.	Course Title	Credits
3125	Organic Chemistry	4
-------	Biology Elective	4
-------	Social Science Elective	3
-------	General Electives (2)	6
		17

SEMESTER 4

No.	Course Title	Credits
3126	Organic Chemistry	4
-------	Biology Elective	4
-------	Humanities Elective	3
-------	General Electives (2)	6
		17

CHEMISTRY OPTION

SEMESTER 1

No.	Course Title	Credits
2350-53	Mathematics (Engr. Calculus 21)	4
3005	General Chemistry 21	4
1004	English Comp. 1	3
-------	Social Science Elective	3
-------	Foreign Language/Humanities Elective	3
		17

SEMESTER 2

No.	Course Title	Credits
2354-57	Mathematics (Engr. Calculus 22)	4
3006	General Chemistry 22	4
3015	Physics 21	5
1005	English Comp. 2	3
-------	Foreign Language/Humanities Elective	3
		19

SEMESTER 3

No.	Course Title	Credits
2358 - 61	Mathematics (Engr. Calculus 23)	4
3125	Organic Chemistry	4
3016	Physics 22	5
-------	Technical Elective	3
		16

SEMESTER 4

No.	Course Title	Credits
2362-65	Mathematics (Engr. Calculus 24)	4
3126	Organic Chemistry	4
3127	Analytical Chemistry	4
-------	Technical Elective	3
-------	Social Science Elective	3
		18

MATHEMATICS OPTION

SEMESTER 1

No.	Course Title	Credits
2350-53	Mathematics (Engr. Calculus 21)	4
3005	General Chemistry 21	4
1004	English Comp. 1	3
-------	Social Science Elective	3
-------	Foreign Language/Humanities Elective	3
		17

SEMESTER 2

No.	Course Title	Credits
2354-57	Mathematics (Engr. Calculus 22)	4
3006	General Chemistry 22	4
1005	English Comp. 2	3
-------	Social Science Elective	3
-------	Foreign Language/Humanities Elective	3
		17

SEMESTER 3

No.	Course Title	Credits
2358-61	Mathematics (Engr. Calculus 23)	4
2089	Linear Algebra	3
3031	Physics 11 or equiv.	4
-------	Humanities Elective	3
-------	Social Science Elective	3
		17

SEMESTER 4

No.	Course Title	Credits
2362-65	Mathematics (Engr. Calculus 24)	4
2092	Intr. to Math Analysis	3
6175	Intr. to Engr. 22 - Computer	3
3032	Physics 12 or equiv.	4
-------	Humanities or Social Science Elective	3
		17

PHYSICS OPTION

SEMESTER 1

No.	Course Title	Credits
2350-53	Mathematics (Engr. Calculus 21)	4
3005	General Chemistry 21	4
1004	English Comp. 1	3
-------	Social Science Elective	3
-------	Foreign Language/Humanities Elective	3
		17

SEMESTER 2

No.	Course Title	Credits
2354-57	Mathematics (Engr. Calculus 22)	4
3006	General Chemistry 21	4
3015	Physics 21	5
1005	English Comp. 2	3
-------	Foreign Language/Humanities Elective	3
		19

SEMESTER 3

No.	Course Title	Credits
2358-61	Mathematics (Engr. Calculus 23)	4
3016	Physics 22	5
6219	Systems Analysis 1	4
-------	Social Science Elective	3
-------	Technical Elective	3
		19

SEMESTER 4

No.	Course Title	Credits
2362-65	Mathematics (Engr. Calculus 24)	4
3017	Physics 23	5
6224	Measurements and Analysis	3
-------	Technical Elective	3
-------	Elective	3
		18

PRE-MEDICAL/PRE-DENTAL/PRE-VETERINARY OPTION

SEMESTER 1

No.	Course Title	Credits
2350-53	Mathematics (Engr. Calculus 21)	4
3005	General Chemistry 21	4
3080	Biology 1	4
1004	English Comp. 1	3
4008	Intro. to Sociology	3
		18

SEMESTER 2

No.	Course Title	Credits
2354-57	Mathematics (Engr. Calculus 22)	4
3006	General Chemistry 22	4
3081	Biology 2	4
3015	Physics 21	5
1005	English Comp. 2	3
		20

SEMESTER 3

No.	Course Title	Credits
3016	Physics 22	5
3125	Organic Chemistry	4
4086	General Psychology	3
-----	Biology Elective	4
-----	General Elective	3
		19

SEMESTER 4

No.	Course Title	Credits
3126	Organic Chemistry	4
-----	Biology Elective	4
-----	Humanities Elective	3
-----	Social Science Elective	3
-----	General Elective	3
		17



ENGINEERING TRANSFER/TECHNOLOGY CORE

The Engineering Technology Core Program is a general technology program. It is for students who do not want to major in any specific technology but want a broad technical background. If after spending one year in the Core Technology Program, a student becomes interested in a specific technology, it is possible for his to transfer to that technology.

This program is also designed to interface with both the Engineering Transfer Program and the Pre-Engineering Option (Level 2) of the General Studies Program. A student, after spending one year in either of these programs,may transfer to the Engineering Technology Core Program with no loss of credit.

A student who completes the entire Engineering Technology Core Program is awarded the Associate of Science Degree in Engineering Technology.

SEMESTER 1

No.	Course Title	Class	Lab	Credits
1004	English Composition 1	3		3
2231-33	Precalculus Mathematics	3		3
3002	Chemistry 1	3	3	4
6019	Basic Electronics 1	3		3
6178	Electronics Lab 1		4	2
6241	Prog. Engineering Graphics		3	1
		12	10	16

SEMESTER 2

No.	Course Title	Class	Lab	Credits
1005	English Composition 2	3		3
2241-43	Precalculus Mathematics	3		3
2334	Sliderule Mathematics	1		1
3012	Physics 1	3	3	4
6024	Basic Electronics 2	3		3
6179	Electronics Lab 2		4	2
		13	7	16

SEMESTER 3

No.	Course Title	Class	Lab	Credits
2350-53	Mathematics (Calculus 1)	6		4
6058	Strength of Materials	4		4
6066	Design of Machine Elements	2	6	4
6221	Intro. to Material Science	3	3	3
6236	Material Science Lab		3	1
xxxx	Social Science Elective	3		3
		18	12	19

SEMESTER 4

No.	Course Title	Class	Lab	Credits
2354 57	Mathematics (Calculus 2)	6		4
6175	Intro. to Engr. 22 Computer	3		3
xxxx	Technical Elective	3		3
xxxx	Social Science Elective	3		3
		15		13







HUMANITIES

Minimum Grade Requirement: Liberal Arts and General Studies Transfer students must achieve a cumulative average of "C" (2.0). All students should, however, check with their own major to determine the cumulative minimum grade requirement for graduation or certification.

ART

1118 - DIRECTED STUDY IN ART Variable Credit

Projects for advanced individual study by special arrangement with the instructor and approval of the Department and Division Chairmen. Students are expected to demonstrate willingness and ability to work on their own with minimal assistance. May be repeated for additional credit.

8096 - ART HISTORY 1 3 credits

Art History 1 is a survey of the major visual arts (architecture, painting and sculpture) of the Western World from the cave paintings through Egypt, the ancient Near East, the Aegean, Greece, Rome, Islam, the Romanesque Period and the Gothic Period. The course is designed to help the student to understand the impulse behind the key monuments in the history of Western art. Slide-lecture instruction will follow Janson's "History of Art." Three in-class hours weekly.

Offered Fall Semester

8097 - BASIC DRAWING 3 credits

This course is an introduction to a variety of media (charcoal, ink, pencil, brush, pastels, etc.) A primary objective is to develop the student's technical skills used in drawing in order that the student will have the necessary tools for a personal visual expression. Emphasis is placed on unfolding the student's own means of representation. No previous art background is required. Five in-class hours weekly.

Offered Fall & Spring

8101 - EARLY CHILDHOOD ART EDUCATION 3 credits

This is a course designed to familiarize teachers in training with how children use art activities as a means of growth and self-expression. The principle objective of the course is to develop an understanding of the need for creative experience for the very young child and to explore ways of structuring classroom situations which will allow for discovery, investigation, inventiveness and individuality. Although the main body of the course is aimed at the child who falls into the so-called "norm," attention is given to the problems of helping the exceptional child through the use of self-expression in the visual arts. Lecture/workshop classes meet three hours weekly. Restricted to students in Early Childhood Education, Mental Health or by permission of the Instructor. *Offered Spring Semester*

8102 - ART HISTORY 2 3 credits

Art History 2 is a continuation of the study of the major visual art expressions of Western man . The first semester course may be helpful, but it is not a prerequisite. Areas of study will include the late Gothic Period north of the Alps, the Renaissance, Baroque and Rococo art of Italy, Germany, France, Spain, Flanders, Holland and England. Emphasis is placed upon understanding the impulse behind man's artistic expressions and their links with the culture in which they are produced. Slide-lecture instructions will follow Janson's "History of Art." Three in-class hours weekly.

Offered Spring Semester

8104 - DRAWING COMPOSITION 3 credits

Drawing will be approached as a basis of composition and training in observation. Emphasis will be placed on developing perceptual awareness and critical self-evaluation as means toward growth in individual ability to express one's self visually. Students will be encouraged to explore areas of personal interest. Figure study is also included. PREREQUISITE: Basic Drawing or permission of instructor. Five in-class hours weekly. *Offered Spring Semester*

8108 - PAINTING 1 3 credits

Easel painting in oils or acrylics. Based on elementary understanding of the physical properties of oil and/or acrylic media, the course will emphasize individual expression within the framework of instruction in techniques, principles of pictorial composition and elements of visual representation. The main objective of the course is to increase perceptual awareness in each student. Five in-class hours weekly.

Offered Fall & Spring

8109 - PAINTING 2 3 credits

Painting is a continuation of Painting 1. Emphasis is placed on exploration of various media and methods of painting. Primary objectives of the course revolve around approaching an individual understanding of the artist's statement. PREREQUISITE: Painting 1 or permission of the instructor. Five in-class hours weekly. *Offered Fall and Spring*

8110 - WOODBLOCK PRINTING 1 3 credits

Basic study of materials, techniques and aesthetic considerations peculiar to relief printmaking. Students cut their designs from blocks of wood and print their own work from the wood blocks. Five in-class hours weekly.

Offered Fall and Spring

8111 - WOODBLOCK PRINTING 2 3 credits

Advanced study of materials, techniques and aesthetic considerstions. Emphasis is placed on individual expression. Basic knowledge of printmaking (Course No. 8110) or background in graphic arts with permission of instructor are required. Five in-class hours weekly. *Offered Fall and Spring*

8112 - BASIC CONCEPTS OF 2-DIMENSIONAL DESIGN 3 credits

The purpose of this course is to instill an appreciation of design. The course provides the basis for any student to continue study in the field of fine arts, applied arts, graphic arts, as well as the arts in the technologies. Emphasis will be placed on understanding elements of design including volume, line, form, space, hue, value, and texture and the organization of the plastic elements into the principles of design, i.e., rhythm, unity, balance, contrast, emphasis, variety, movement, structure. These basic concepts will be expressed in projects using a variety of materials. Five in-class hours weekly. Fulfills liberal arts requirement.

Offered Fall Semester

8113 - SCULPTURE 3 credits

The principle emphasis of the course is with the organization of space — an expansion of the students' design vocabulary previously developed in Basic Concepts of Two-Dimensional Design. Through various methods of exposure (such as experimentation with wood, paper, metal, plaster, etc.), the students develop solutions to problems in volume, space organization, mass and tension. Offered in spring semester only. Five in-class hours weekly. Fulfills liberal arts requirement. *Offered Spring Semester*

CE8115 - POTTERY 1 3 credits

A basic studio course stressing creative use of clay and related materials. Hand-built and wheel thrown pottery, glazing and firing. Studio fee and limited enrollment.

CE8119 - FIGURE DRAWING 3 credits

The primary focus of this course is the study of the human figure as a vehicle for clarifying both perception and expression. A primary course objective is the aquisition by the student of a sense of the evaluative process inherent in making and viewing art works in various drawing media.

CE before a course number indicates: Continuing Education (offered currently only in the Evening Division).

ENGLISH

1004 - ENGLISH COMPOSITION 1 3 credits

The purpose of this course is to acquaint students with prose writing, particularly sentence style, paragraphing, thesis development, and essay design. Students are encouraged to develop an individual style of writing, drawn from their own experience and contemporary readings. In addition, special attention is given to the writing of a research paper of moderate length. *Offered Fall and Spring*

1005 - ENGLISH COMPOSITION 2: AN INTRODUCTION TO LITERATURE 3 credits

This course involves the close reading and class discussion of fiction, poetry and plays, mostly modern, and essay assignments involving writing about literature. Emphasis is on literary form and the traditions of imaginative literature and on the role of individual literary works as expressions of universal human experience. *Offered Fall and Spring*

1006 - BUSINESS ENGLISH 3 credits

This course is designed to prepare business students to meet the requirements of writing all kinds of communications in the business world, emphasizing the construction of proper business letters, reports, resumes, and memoranda. Students develop an understanding of correct style, form, and tone and gain an ability to write clear and concise business communications. *Offered Fall and Spring*

1007 - FUNDAMENTALS OF SPEECH 3 credits

This is a course designed to acquaint students with several types of basic speeches, such as extemporaneous, formal, and impromptu. Students will be expected to deliver a number of oral presentations before their classes during the semester.

Offered Fall and Spring

1008 - TECHNICAL REPORT WRITING 3 credits

Instruction has been organized to emphasize methods involved in the writing process. Special emphasis has been placed on the factors which the report writer must consider and the processes he must follow in writing a report. The student will become acquainted with the techniques of analyzing a writing situation, methods of investigating the problem, organizing the report and preparing the final copy.

Offered Fall and Spring

1009 - WORLD LITERATURE 1 3 credits

Masterpieces of Western culture from 2,000 BC through the Renaissance are carefully examined in this course to discover the secret of their endurance and their unique value to the modern world. All works are in translation and may include, among others, selections from the "Bible ," "The Iliad" of Homer, Greek Tragedy, Dante's "Inferno ," Boccaccio, Rabelais, "Don Quixote ," and essays by Montaigne. Close reading, class discussion and attending live theater performances are encouraged. Prerequisite is English Comp. 1 with Comp. 2 recommended. *Offered Fall and Spring*

1010 - WORLD LITERATURE 2 3 credits

This course extends the work of World Lit. 1 from the seventeenth to the twentieth centuries. It may include, among others, selections of Pascal, Voltaire, "Confessions" of Rousseau, Goethe's "Faust ," Flaubert, Dostoevsky, Tolstoy, Proust, tales of Kafka and essays by Camus. Close reading, class discussion and attending live theater performances are encouraged. Prerequisite is English Comp. 1 with Comp. 2 recommended. World Lit. 2 may be taken before, after or in place of World Lit. 1. *Offered Spring Semester*

1012 - ENGLISH LITERATURE 1 3 credits

This course consists of readings in English literature from the Anglo-Saxon period to the eighteenth century, especially Beowulf, Chaucer, Shakespeare, Spenser, Milton, Swift and Pope. Primary emphasis is placed on the close and critical reading of individual works, but the works are also studied as representatives of the major literary and intellectual movements in the history of English literature.

Offered Fall Semester

1013 - AMERICAN LITERATURE 1 3 credits

The growth of American literature from the Colonial period to the Civil War reflects major developments in American thought, beliefs, and values. Such writers as Bradford, Bradstreet, Edwards, Franklin, Poe, Hawthorne, Melville, Emerson, and Thoreau will be the basis of our close, critical reading and discussion, representating our literary and intellectual heritage. *Offered Fall Semester*

1014 - AMERICAN LITERATURE 2 3 credits

Readings of American fiction, poetry, and drama from the Civil War to the present, ranging from Whitman, Dickinson, Twain, James, Frost, Fitzgerald, Hemingway, and Faulkner to Eliot, Stevens, Bellow, and Ellison continue our survey of American literature from the same critical perspective as American Literature 1. *Offered Spring Semester*

1015 - IRISH LITERATURE 3 credits

The course introduces the student to contemporary Irish Literature. It includes myths, legends and a general history of Ireland, with the focus on such writers as O'Casey, Synge, Joyce, Yeats, O'Connor, Behan, Pearse, Heaney and Montague, Films and slides for visual enrichment are shown regularly.

Offered Spring Semester

1018 - CHILDREN'S LITERATURE 3 credits

Children's Literature is an elective one-semester survey course. The material includes study of: the history of children's literature; juvenile novels for children ages 8-12; picture books, their subject matter and illustrative techniques, for children ages 3-6; folktales and literary fairy tales; and children's poetry. The emphasis is on American publications.

Offered Fall and Spring

1019 - ENGLISH LITERATURE 2 3 credits

This course is a continuation of English Literature 1 and consists of readings from the Romantic period to the twentieth century, especially the works of Wordsworth and Coleridge, Tennyson and Browning and Eliot and Joyce. The works are studies from the same perspective and with the same emphasis as in English Literature 1. *Offered Spring Semester*

1023 - WOMEN IN LITERATURE 3 credits

This course will focus on the roles, myths, and sterotypes of women in different historical periods, and relate these roles to the social structure, the status, and function of women in the particular social setting in which the literary works were written. This study will enable us to discover to what extent the image of women in literature reflects reality, and to what extent it is an ideal encouraged to keep women in a particular role. Works by Virginia Woolf, Kate Chopin, Anne Sexton are included readings. *Offered Spring Semester*

1025 - LOVE & MARRIAGE: LITERARY PERSPECTIVES 3 credits

To understand how men and women inform, educate, change, and influence one another, both creatively and destructively, we shall examine through literature the stages of love, courtship, and marriage in all their rational, romantic, realistic, ironic, and revolutionary modes and effects. Readings include: "Sons and Lovers," "Pride and Prejudice ," "Madame Bovary ," "A Doll's House in Four Plays ," "The Kreutzer Sonata ," "A Man and Two Women ," and "Who's Afraid of Virginia Woolf ."

Offered Fall Semester

1047 - LITERATURE AND THE SEARCH FOR SELF 3 credits

Searching for an identity, these men and women in literature insisted on taking responsibility for their own lives, struggling to strike out for themselves and choose their own way but came up against the opposition of: the family, the economic or political system, the values of the Establishment, and their own inner divisions. Readings include nineteenth and twentieth century works of fiction, poetry, and drama.

Offered Fall Semester



1053-55 – READING 1 credit per module

1053 - READING MODULE 1 1 credit
Reading 1 offers practice in basic reading skills. The main objective is to improve comprehension on a literal level. Vocabulary and rate work will be included to meet individual student needs as the course progresses.

1054 - READING MODULE 2 1 credit
Reading 2 offers practice in improving comprehension, vocabulary, and rate. It is a continuation of the fundamental work in Reading 1 and is intended to help students read textbooks and non-academic material with greater ease and understanding.

1055 - READING MODULE 3 1 credit
Reading 3 is an advanced reading course: vocabulary lessons are highly specialized; comprehension selections include questions on the literal, interpretive and evaluative levels; and rate work demands that students demonstrate an increase in speed while maintaining high comprehension scores.

1100 - COMMUNICATION SKILLS 1 3 credits
This course develops study skills necessary for college work and provides a solid review of Basic English skills in grammar and composition. The work in the course covers punctuation, the parts of speech, sentence structure, and paragraph development. The course provides preparation for English Composition 1 and is suitable for students who have had difficulty with English composition, or who have had few opportunities to exercise their composition skills. This course cannot be counted for graduation credit.
Offered Fall and Spring

1156-58 – COMMUNICATION SKILLS 1 credit per module
Same content at 1100 Communication Skills 1 but taught in three sequential modules.

1156 - COMMUNICATION SKILLS, MOD.1 1 credit
Students study the parts of speech, sentence structure, and paragraph development.

1157 - COMMUNICATION SKILLS, MOD. 2 1 credit
Students write fully-developed essays and deal, in grammar, with verb problems and sentence patterns.

1158 - COMMUNICATION SKILLS, MOD. 3 1 credit
Students aim to achieve coherency in lengthy writing through effective transitions. Grammar review includes rules for spelling and punctuation.

1104 - A SURVEY OF BLACK AMERICAN LITERATURE 1 3 credits
This course is designed to accomplish two aims. First, there will be a concentrated study of the writings by Black Americans from slavery times to 1940, including not only the usual fiction, essays and poetry but also folk tales, orations, and slave narratives; secondly, this course will focus upon developing an awareness of the unique quality of the "Black Experience" as it has defined the various modes and themes that characterize Black Literature. *Offered Fall Semester*

1105 - A SURVEY OF MAJOR AMERICAN & EUROPEAN POETS 3 credits
This course examines representative works of poetry from various literary periods. The major poets of American and Europe are studied and discussed, though modern poetry is given considerable importance. The course gives particular attention to the art of poetry as a literary genre.

1107 - A SURVEY OF MAJOR AMERICAN & EUROPEAN NOVELS 3 credits
This course examines representative novels from various literary periods, giving particular attention to the history and development of the novel as a genre, as well as the novel's ability to capture the quality of a period. Major American and European novels are studied and discussed.

1108 - SURVEY OF AMERICAN & EUROPEAN SHORT STORIES 3 credits
Students read and discuss representative short stories by American and European writers. Information about the origin and development of short fiction will provide a background for the study of traditional and contemporary stories.

1115 - BASIC ENGLISH CONVERSATIONAL SKILLS 1 Variable Credit
This course is designed for students of English as a Second Language, with the purpose of providing an understanding of the language and culture of the United States, through interpretative sources. Emphasis will be placed on improving reading skills and increasing work knowledge through informal conversation exercises.

1116 - DIRECTED STUDY IN LITERATURE Variable cr.
Projects for advanced individual study by special arrangement with the instructor and approval of the Department and Division Chairmen. Students are expected to demonstrate willingness and ability to work on their own with minimal assistance.

1121 - DIRECTED STUDY IN DRAMA Variable credit
Projects for advanced individual study by special arrangement with the instructor and approval of the Department and Division Chairmen. Students are expected to demonstrate willingness and ability to work on their own with minimal assistance.

1122 - DIRECTED STUDY IN SPEECH Variable Credit
Projects for advanced individual study by special arrangement with the instructor and approval of the Department and Division Chairmen. Students are expected to demonstrate a willingness and ability to work on their own with minimal assistance.

1123 - FILM CRITICISM 3 credits
This course will encourage students to explore critically their responses to cinematic presentations. Students will grapple in essays and oral presentations with such matters as the usefulness of criticism, the possible approaches a critic may take and how a critic can best formulate and express his ideas about artistic endeavors in the medium of film. This course should provide an arena in which students new to criticism in a formal sense but long-time practitioners of informal criticism can work together to focus and sharpen their critical awareness and responses.

1124,1125, 1126 - COLLEGE THEATER WORKSHOP 1,2,3 1,2, or 3 credits
A workshop in all aspects of theatrical production. Participation in college theatre productions is required of all students. It may be taken by qualified students, faculty, and staff as a co-curricular activity with or without credit. Field trips to theatres and conventions and speakers from all areas of the theatre will be included. *Offered Fall and Spring*

1127 - INTRODUCTION TO THE THEATRE 3 credits
Play reading and analysis, drama criticism, theatre history, forms of drama, and the process of the play production studied with the aim of increasing appreciation of the theatre and enjoyment of the dramatic experience.

1128 - ADVANCED ENGLISH COMPOSITION 1: IDEAS FOR EXPOSITORY WRITING 3 credits
Reading, analysis and writing of expository, descriptive and argumentative prose of an advanced nature. Reasearch paper required. Open by examination or permission of English Department faculty.

1129 - ADVANCED ENGLISH COMPOSITION 2: INTRODUCTION TO CREATIVE WRITING 3 credits
Reading and critical analysis of the major literary forms – fiction, drama and poetry. Continued writing of an advanced nature. Open by examination or permission of English Department faculty.

1131, 1132 - ENGLISH AS A SECOND LANGUAGE 1 & 2 6 credits
This course in the acquisition or development of basic language skills provides the student with a guided program in the areas of conversational fluency, reading and listening comprehension, vocabulary development and elementary written expression. Pretests are used to evaluate areas of individual competency and priority.

1150 - ENGLISH AS A SECOND LANGUAGE 3 3 credits
Course is designed to meet the needs of students who have attained intermediate proficiency in English. It will provide practice in writing paragraphs and essays, reading and speaking. The emphasis will be on writing skills. PREREQUISITE: E.S.L. 1 and 2 (1131, 1132) or permission of the Instructor.

1137 - THE BIBLE AS LITERATURE 3 credits
Students read the text of the Old and New Testaments of the Bible as selected, emphasizing the wide variety of literature the books contain. Folktales, sagas, hero journeys, poetry, short fiction, wisdom literature, biography, sermons and drama show an encyclopedia of writing around a central theme and tradition. Students present reports on related material.
Offered Spring Semester

1138 - A SURVEY OF BLACK AMERICAN LITERATURE 2 3 credits
This course is a continuation of English 1104 and, as such, also provides a broad sampling of Black American authors and their various types of writing. The works studied include those genres which have dominated the modern era from the mid-1940's to the present – realistic and protest fiction, innovative poetry and drama, contemporary criticism, etc. Moreover, the course will continue, on a more immediately relevant level, the development of an appreciation of that particular quality of life known as the "Black Experience."
Offered Spring Semester

CE1141 - MODERN TRADITION 3 credits
This is a course designed to acquaint the student with the Modernist movement and to read authors who have made significant contributions in the writing of that movement: existentialism, symbolism, myth. Authors to be read include Camus, Sartre, Mann, Borges, Kafka, and as many other modern ists as time permits.

CE before a course number indicates: Continuing Education (offered currently only in the Evening Division).

FOREIGN LANGUAGES

FRENCH

1084 - ELEMENTARY FRENCH 1 3 credits
This introductory course is designed primarily for students who have had no previous experience with the language. Reading comprehension and mastery of the phonic patterns of the language are first objectives. Some basic grammar is introduced. Televised and semi-programmed materials help to accommodate the individual learning pattern and pace. Work with tapes is required. NO PREREQUISITES.
Offered Fall Semester

1085 - ELEMENTARY FRENCH 2 3 credits
This is a continuation of Elementary French 1. Using televised materials with an accompanying text, grammar is studied in context and the first objective of the course is the development of oral comprehension and conversational skill in

a limited context. Work with tapes is required. PREREQUISITES: Elementary French 1 or two units of French at entrance. *Offered Spring Semester*

1086 - INTERMEDIATE FRENCH 1 3 credits
The intermediate sequence is designed for students who have had a measure of experience with the language and seek to increase their control of the basic skills. Conversation, comprehension practices, grammar and guided composition, reading on both elementary and advanced levels make up the content of the course in a combination that reflects the background and interests of the group. Work with tapes or television is required. PREREQUISITES: Elementary French 2 or 3 units of French at entrance. *Offered Fall Semester*

1087 - INTERMEDIATE FRENCH 2 3 credits
This is a continuation of Intermediate French 1. Classes are conducted in French. Small group instruction provides an individualized, intensive learning experience in which the student shares in the selection of course priorities and assumes responsibility for his progress. Work with tapes or television required. Some independent reading, oral reports, etc. PREREQUISITES: Intermediate French 1 or 4 units of French at entrance. *Offered Spring Semester*

1113 - DIRECTED STUDY IN FRENCH Variable Credits
Projects for advanced individual study by special arrangement with the instructor and approval of the Department and Division Chairmen. Students are expected to demonstrate willingness and ability to work on their own with minimal assistance.

SPANISH

1081 - PRACTICAL MEDICAL SPANISH 3 credits
This is an interdisciplinary course. It teaches skills needed in the health and human service fields to establish oral communication with monolingual Spanish-speaking individuals. Students become acquainted with basic medical terminology and phrases needed in helping Spanish-speaking patients/clients. Class participation in Spanish is encouraged from the beginning. Cultural differences and similarities between USA and Latin America are also emphasized.
Offered Fall and Spring

1096 - ELEMENTARY SPANISH 1 3 credits
The approach to this course is strictly utilitarian, lessons centering around realistic themes and situations. Only a limited amount of grammar is introduced; the course concentrates on the acquisition of pragmatic vocabulary, verb patterns and idiomatic expressions used in daily situations. Language lab is required. *Offered Fall and Spring*

1097 - ELEMENTARY SPANISH 2 3 credits
A continuation of Elementary Spanish 1. Students are urged to start using basic conversational patterns and developing some reading skills. Language lab is required. PREREQUISITES: 1096 or 2 units at entrance.
Offered Fall and Spring

1098 - INTERMEDIATE SPANISH 1 3 credits
A review of grammar will be given in this course; oral drill and conversation receive special attention. The reading skills are further developed. Students are introduced to basic writing skills. Language lab is required. PREREQUISITES: 3 units of Spanish at entrance or 1097. *Offered Fall and Spring*

1099 - INTERMEDIATE SPANISH 2 3 credits
A continuation of Intermediate 1. The reading and writing skills receive special attention. A Spanish novel is required reading. Taught in Spanish. Language lab is required. PREREQUISITES: 4 units of Spanish at entrance or 1098.
Offered Fall and Spring

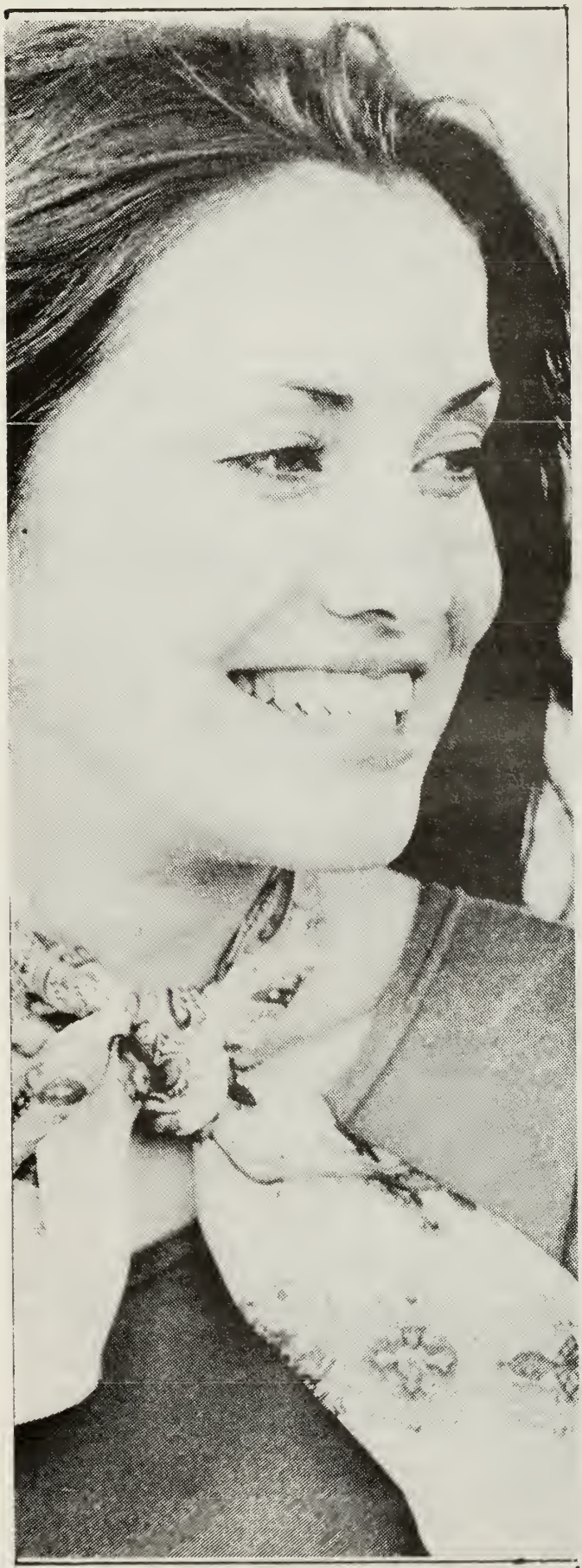
1112 - BASIC STUDY SKILLS IN SPANISH Variable credits
This course is designed to deal with study skills necessary for successful college work. Topics discussed include: Note taking, outlining, Time allotment, preparation for exams and the organization of a term paper. The second part is designed to acquaint students with information concerning job placement, resumes and interviews.

1171 - SPANISH FOR HUMAN SERVICES 3 credits
This course intensifies the skill development of "Practical Medical Spanish," Course No. 1080. Spanish grammar and Latin American culture are emphasized in order to inprove bilingual ability related to human services. Extensive vocabulary development is implemented by role playing. Bilingual printed material and community agency application forms are thoroughly discussed in class.
Offered Spring Semester

MUSIC

8080 - MUSIC APPRECIATION 3 credits
A survey course for the general student in which significant works from the several periods of music history will be heard and discussed. This course will be open to all students at the college. Outside listening and reading assignments will be scheduled and attendance at live concerts will be encouraged.
Offered Fall and Spring

8094 - INTRODUCTION TO KEYBOARD SKILLS 2 credits
An adult approach for beginning piano students. The course will be taught as a laboratory skills program with emphasis on the basic structure of keyboard music. Melody, chords, rhythm, form, dynamics and style will be studied by the student at the keyboard and discussed in lecture sessions. Students will be encouraged to proceed as their individual abilities permit, requiring considerable individualization of instruction as the student gains in technical mastery. Open to all students at the college regardless of previous musical experience. *Offered Fall and Spring*



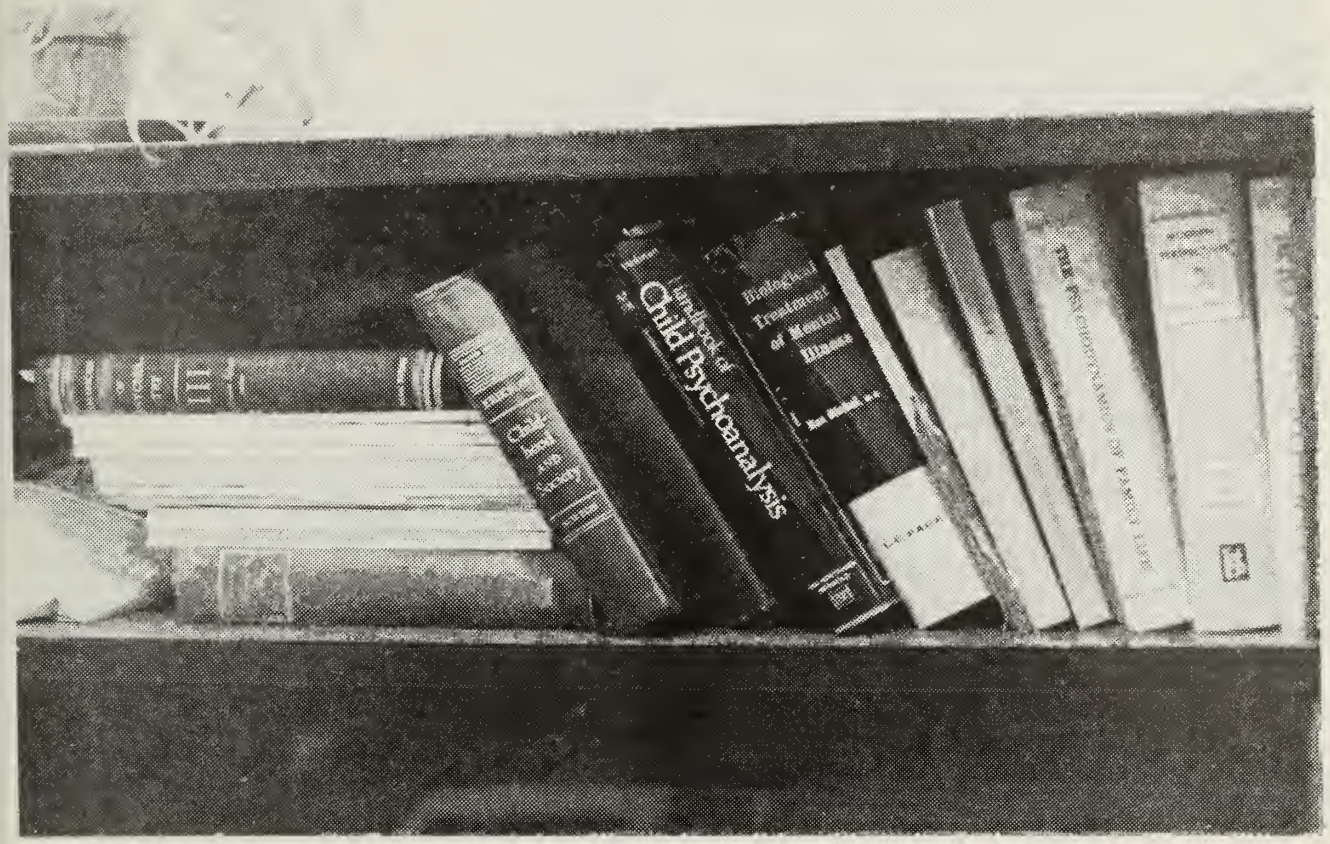
8095 - MUSIC FOR EARLY CHILDHOOD EDUCATION
3 credits

An introductory course in the tenets of music, keyboard experience and practical musical activities suitable for use in nursery, kindergarten and primary programs. Also included will be workshop experiences in rhythmic movement, singing, dramatization and rhythm instruments. Restricted to Early Childhood Education majors. *Offered Fall Semester*

8103 - INTERMEDIATE KEYBOARD SKILLS 2 credits

A continuation of the Introduction to Keyboard Skills course. Mastery of major and minor scales, arpeggios, and chords in all keys will be taught. The emphasis will be on developing mastery of sight-reading skill, providing the student with skills for further self-exploration of the keyboard upon completion of the program. Course open with the permission of the instructor or the satisfactory completion of 8094.

Offered Spring Semester







Social Sciences

SOCIAL SCIENCES

Minimum Grade Requirement: Liberal Arts Transfer students must achieve a cumulative average of "C" (2.0).

All students should, however, check with their own major to determine the cumulative minimum grade requirement for graduation or certification.

ECONOMICS

4014 - PRINCIPLES OF ECONOMICS 1 3 credits
The course is offered primarily for those students who might not take more than one or two semesters of economics but are interested in the subject as a part of a general education. It aims at the understanding of current economic institutions and the economic problems of modern industrialized society such as inflation, unemployment, urban development, and economic growth. No previous knowledge of economics is required. *Offered Fall & Spring*

4015 - PRINCIPLES OF ECONOMICS 2 3 credits
This course is the sequential course to Principles of Economics 1 (4014) and is primarily concerned with Microeconomics. Microeconomics deals with the subsystems of the economy such as the economics of the individual, the firm and an industry. The major emphasis is on a thorough analysis of supply and demand and of the four-market structures. The theories and concepts are then applied to such relevant topics as poverty, ecology, and population growth. PREREQUISITES: 4014. *Offered Fall & Spring*

4016 - CURRENT ECONOMIC PROBLEMS 3 credits
A course designed to acquaint the student with a greater understanding of several of the more important problems of our economy such as economic growth, unemployment, consumer credit, cost of air pollution and population explosion. The main aspect of the course will be practical economic analyses of the problems covered.
Offered Fall & Spring

4017 - COMPARATIVE ECONOMIC SYSTEMS 3 credits
This course considers an analysis of today's major economic systems, such as the American modified market economy, the mixed economies of Western Europe, France, Germany, United Kingdom and the command economies of the Soviet Union and the Peoples Republic of China. PREREQUISITE: 4014. *Offered Spring Semester*

4500 - DIRECTED STUDY IN ECONOMICS Variable credits
Semester hour credit will vary from one to three, depending upon the written, agreed-upon, approved, student-professor contract.

HISTORY

4012 - HISTORY OF WESTERN CIVILIZATION 1 3 credits
Origin and development of Western Civilization beginning with the classical civilizations of Greece and Rome, continuing through early Christianity and the Middle Ages, and concluding with the Renaissance and Reformation.
Offered Fall & Spring

4013 - HISTORY OF WESTERN CIVILIZATION 2 3 credits
Modern Western Civilization from the end of the Middle Ages to the present. Begins with Seventeenth Century Europe and discusses: the beginnings of modern science; the Enlightenment and the political revolutions in England, America and France; the industrial and intellectual revolutions of the Nineteenth Century; the World Wars of the Twentieth and developments which follow in the post-war period.
Offered Fall & Spring

4076 - MODERN U.S. DIPLOMATIC HISTORY 3 credits
An historical survey of significant currents in American Diplomacy from the 1890's to the present. Consideration will be given to the antecedents of Twentieth Century American Foreign Policy and to the interplay of Ideology and the National Interest in the decision-making process.
Offered Fall Semester

4078 - INTRODUCTION TO MODERN BRITAIN AND FRANCE 3 credits
A survey of Britain and France in the Nineteenth and Twentieth Centuries. Social, economic and political developments are treated with emphasis upon their respective roles in Nineteenth Century world affairs, their decline in the Twentieth Century and their influence upon American development and history. *Offered Spring Semester*



4079 - HISTORY OF THE RUSSIAN EMPIRE 3 credits
An introductory study of the political, social and Intellectual history of the Russian Empire from the Rurik Dynasty, the November Revolt of 1917 and the Russian Civil War.
Offered Fall Semester

4080 - HISTORY OF SOVIET RUSSIA 3 credits
An introductory study of the political, social and intellectual development of Soviet Russia with emphasis on the origins of Russian Marxism and the Bolshevic movement. The course also deals with the internal development of Russia, her international relations and current politics.
Offered Spring Semester

4081 - SURVEY OF EARLY U.S. HISTORY 3 credits
History of the United States from the Colonial period to the end of the Civil War. A topical approach is followed within a chronological framework centering on the colonial origins of American society, its separation from England, the subsequent process of nation building and the development of the Civil War during the Ante-Bellum period. *Offered Fall & Spring*

4082 - SURVEY OF MODERN U.S. HISTORY 3 credits
History of the United States from the Reconstruction period until the present. Consideration will be given to the impact of the Industrial Revolution on late Nineteenth Century America and the influence of war and reform on the nation during the Twentieth Century. A social-cultural and new political approach will be utilized. *Offered Fall & Spring*

CE 4110 - LOCAL HISTORY OF THE AMERICAN REVOLUTION 3 credits
This course will endeavor to recreate the atmosphere of the Pioneer Valley during this exciting period in our history. Special attention will be given to the area's actual involvement in the war itself; with a comprehensive evaluation of local political and military participation. The social and political changes which occur in the Valley will be stressed. And finally the climatic events of Shay's Rebellion will be discussed and evaluated.

CE 4111 - HISTORY OF THE PIONEER VALLEY 3 cr.
A detailed explanation of the climate, geography and the nature of the land in the Pioneer Valley. A review of the exploration and reasons for the settlement of the Connecticut River Valley, History of Springfield, and the establishment of the Armory is also included.

CE 4116 - THE INFORMATION WAR IN VIETNAM 3 cr.
The course will examine the effects of ideology on foreign policy and the efforts of the U.S. government to influence public opinion. The primary focus will be on the American news media in Saigon and how it functioned as the war evolved from 1956 to 1974. By studying the interaction between newsmen and government officials in Vietnam, the course provides insight to current news events. Vietnam veterans and journalism students urged to enroll.

CE4121 - INTRODUCTORY GEOGRAPHY 3 credits
A geographic analysis of the location, spatial distribution and association of physical and cultural features of the Earth. Objectives of this course include emphasis upon understanding geographic principles, methods and materials. Extensive use of maps.

4504 - DIRECTED STUDY IN HISTORY Variable credits
Semester hour credit will vary from one to three, depending upon the written, agreed-upon, approved, student-professor contract.

CE before a course number indicates: Continuing Education (offered currently only in the Evening Division).

SOCIOLOGY/ANTHROPOLOGY

4006 - INTRODUCTION TO ANTHROPOLOGY 3 credits
A general introduction to social and cultural anthropology which will explore among the diverse cultures of the world some of the possible variations in technology, economics, social and political organization, art, religion and ideology.
Offered Fall Semester

4008 - INTRODUCTION TO SOCIOLOGY 3 credits
An introductory course designed to acquaint the student with a working knowledge of the concepts used by sociologists and with the well-established generalizations in the field. Topics to be studied include socialization, culture, population, group processes, and social stratification *Offered Fall & Spring*

4009 - SOCIAL PROBLEMS 3 credits
This course applies the principles and concepts of sociology to selected aspects of contemporary American society, such as the areas of poverty, crime, urban change, population, alcoholism, role redefinitions, minority group relations and drug addiction. PREREQUISITE: 4008. *Offered Fall & Spring*

4010 - SOCIOLOGY OF THE FAMILY 3 credits
The course will focus on the historical development and change of the family, its structure and functions and its relationship to the other major institutions of society. Although the primary focal point will be the American family, cross-culture comparison will be used especially in the study of marriage and kinship practices. Strong emphasis will also be placed on family change and the family as a social problem including such topics as the single parent, changing sex roles and communes. PREREQUISITE: 4008. *Offered Fall & Spring*

4099 - RACE AND ETHNIC RELATIONS 3 credits
This course will inquire into the causes and consequences of discrimination and prejudice, together with consideration of the manner in which these crucial questions can most adequately be resolved. Social, economic and political aspects of racial problems in the United States will be studied, with particular reference to black and major ethnic groups such as the Black Power movement and Americans of Oriental, Mexican, Indian and Puerto Rican descent. A survey of most earlier immigrant groups will also be made. PREREQUISITE: 4008. *Offered Spring Semester*

4503 - DIRECTED STUDY IN SOCIOLOGY Variable cr.
Semester hour credit will vary from one to three, depending upon the written, agreed-upon, approved, student-professor contract.

4505 - DIRECTED STUDY IN ANTHROPOLOGY Variable cr.
Semester hour credit will vary from one to three, depending upon the written, agreed-upon, approved, student-professor contract.

CE before a course number indicates: Continuing Education (offered currently only in the Evening Division).

PSYCHOLOGY AND EDUCATION

4073 - HUMAN RELATIONS AT WORK 3 credits
An introductory course designed to emphasize some of the psychological principles that directly affect persons in the world of work. Emphasis will be placed upon awareness of self concept, interpersonal relations and individual functioning in the work setting. *Offered Fall & Spring*

4085 - CHILD AND DEVELOPMENTAL PSYCHOLOGY 3 credits
This advanced course examines the major influences on a child's physical, mental, and personality development from conception to adolescence. Students have an opportunity to explore the questions, "what made you the kind of child you were and the kind of adult you are now? Basic theories and contemporary research suggest some answers for more effective parenting. PREREQUISITE: 4073 or 4086.
Offered Fall & Spring

4086 - GENERAL PSYCHOLOGY 3 credits
This introductory course identifies those scientific methods used to study human behavior. Discussion centers around the contributions of heredity, environment, learning, perception, motivation and emotion in shaping our individual personalities. *Offered Fall & Spring*

4087 - PRINCIPLES OF NORMAL/ABNORMAL BEHAVIOR 3 credits
A general introduction into the origin, development, degrees of mental disorganization, and the methods of coping with psychological disfunction . Inquiry will also be made into the theoretical and applied approaches of several of the major schools of thought with regard to helping services. PREREQUISITE: 4086. *Offered Fall & Spring*

CE4088 - ADOLESCENT PSYCHOLOGY 3 credits
A study of the growth and problems of adjustment for adolescents, including the struggle to retain their identity and attain maturity. PREREQUISITES: 4073 or 4086.

4092 - PSYCHOLOGY OF HUMAN ADJUSTMENT & PERSONAL EFFECTIVENESS 3 credits
A course which explores the means by which a person manages himself and learns to cope with some of the multiple drives, demands and pressures encountered in human living. The contributions of major theorists such as Erikson, Freud, Fromm, Rogers and Sullivan will be considered. Lectures, textbooks, collateral reading, verbal and written reports will be required. PREREQUISITE: 4073or 4086.
Offered Fall & Spring

4093 - INTRODUCTION TO INDUSTRIAL & ORGANIZATIONAL PSYCHOLOGY 3 credits
The application of basic psychological principles to human problems in industry. Major areas of emphasis will include worker motivation, individual differences, personnel problems, selection and training, job satisfaction, employee attitudes and incentives, industrial mental health, human relations factors and psychological tests used in industry. PREREQUISITE: 4073 or 4086. *Offered Spring Semester*

CE4102 - PSYCHOLOGY OF DRUG ABUSE 3 credits
This is an introductory course to provide students with a thorough knowledge of drugs and to promote an accurate understanding of the impact drug abuse has on society.

CE4103 - PSYCHOLOGY OF THE EXCEPTIONAL CHILD 3 credits
An introductory course emphasizing the etiology, diagnosis, characteristics, education, and prognosis of children with deviations in mental, physical, and/or social-emotional development. PREREQUISITE: 4086.

CE4125 - PROBLEMS OF ALCOHOLISM AND RELATED DEPENDENCIES 3 credits
This course is designed for, but not restricted to, those currently involved with the counseling of persons who have become addicted to alcohol or related mind-altering chemicals. The course will seek to dispell myths and misconceptions about alcoholism, and will exam the impact upon the individual and his family, employment, and community.

4128 - CAREER PLANNING & DEVELOPMENT 3 credits
For students in Student Development, General Students, or the technologies. Systematic career development skills with an emphasis on personal awareness, career exploration, value clarification, decision-making, job market survey, and program development.
In addition to the above topics, the student will be tested using the following battery to provide more in-depth information on each individual: Strong-Campbell Interest Inventory, Self-Directed Search, General Aptitude Test Battery.
Offered Spring Semester

4501 - DIRECTED STUDY IN PSYCHOLOGY Variable cr.
Semester hour credit will vary from one to three, depending upon the written, agreed-upon, approved, student-professor contract.

CE before a course number indicates: Continuing Education (offered currently only in the Evening Division).

POLITICAL SCIENCE/GOVERNMENT

4083 - AMERICAN GOVERNMENT AND POLITICS 3 credits
An analysis of the way in which politics and political institutions work in American Society. The major problems of American democracy are examined; their political, social, and economic implications explored; Constitutional Rights and Freedoms; the Federal Power Structure; Changing Governmental Institutions. *Offered Fall Semester*

4084 - EUROPEAN COMPARATIVE GOVERNMENT 3 credits
A functional analysis of the government and politics of four European political systems: Great Britain, France, West Germany and the Soviet Union. The historical development of political institutions will be traced and compared, while changing social, economic, and cultural conditions are emphasized. *Offered Spring Semester*

4112 - INTERNATIONAL RELATIONS–WORLD POLITICS 3 credits
This course is designed to aid the student in reaching a better understanding of world politics which determines whether we as individuals and our civilization will prosper or decline. The nation-state system, and the search for international order will be discussed. An emphasis will be given to American foreign policy and our role in world affairs with special consideration given to highly volatile current international problems.
Offered Spring Semester

CE4119 - FUTURE POLITICS 3 credits
This is a new course in a new setting. It is divided into two parts: problems and possible resolutions. First, recently many of us have begun to read (and experience) more and more about increasing population, poilution and the growing scarcity of food and natural resources. What is at work here? This course will explore these problems. Secondly, since the government will grapple with these problems; as it has with the energy and food shortages, the concluding part of this course will examine the possible approaches which government can take to resolve these difficulties. Thinking about the next twenty-five years, our standard of living, style of life, form of government, international peace and the future of mankind itself could be heavily influenced by these factors.

4502 - DIRECTED STUDY IN POLITICAL SCIENCE
Variable cr.

Semester hour credit will vary from one to three, depending upon written, agreed-upon, approved, student-professor contracts.

CE before a course number indicates: Continuing Education (offered currently only in the Evening Division).





Math & Natural Sciences

MATH & NATURAL SCIENCES

ENGINEERING SCIENCES

6049 - SPECIAL PROJECTS IN ENGINEERING 1 1,2,3 or 4 cr.

Special projects in engineering under the direction of an instructor. Prerequisite: Permission of the Department Chairman. *Offered Fall & Spring*

6050 - SPECIAL PROJECTS IN ENGINEERING 2 1,2,3 or 4 cr.

Continuation of 6049. Prerequisite: Permission of the Department Chairman. *Offered Fall & Spring*

6107 - SPECIAL PROJECTS IN ENGINEERING TECHNOLOGY 1 1,2,3 or 4 cr.

Special projects in Engineering Technology under the direction of an instructor. Prerequisite: Permission of the Department Chairman. *Offered Fall & Spring*

6108 - SPECIAL PROJECTS IN ENGINEERING TECHNOLOGY 2 1,2,3 or 4 cr

Continuation of Special Projects in Engineering Technology 1 (6107). Prerequisite: Permission of the Department Chairman. *Offered Fall and Spring*

6154 - INTRODUCTION TO ENGINEERING 21 2 credits

An introduction to the fields of science and engineering for freshman engineering students. Educational requirements, career possibilities, job functions and material rewards are considered. Guest lectures are given by various scientists and engineers concerning their specific disciplines. Numerous field trips to scientific and engineering facilities are made. Engineering design exercises requiring creative efforts are assigned and the basic concepts of linear algebra including Gaussian Elimination, Cramer's Rule, and Matrix Techniques are developed. Two hours of lecture and one three hour laboratory. Prerequisite: Math 2331-33. *Offered Fall Semester*

6175 - INTRODUCTION TO ENGINEERING 22: COMPUTER PROGRAMMING 3 credits

A continuation of Introduction to Engineering 21 with the major emphasis on the development of the computer language Fortran as a powerful tool in solving a number of diverse problems in science and engineering. A brief introduction to numerical analysis is also presented. Three hours of lecture. Prerequisite: Math 2350-53. *Offered Spring Semester*

6176 - SENIOR ENGINEERING SEMINAR no credit

This course is designed to increase the awareness of senior engineering transfer students to the opportunities for transfer to the local engineering colleges and universities as well as the opportunities for employment with the local engineering industries. This is accomplished by seminars, meetings and tours, both at and away from STCC, with college, university and industrial representatives. A satisfactory grade in this course is contingent upon the submittal of several transfer applications through the college transfer counselor for those students interested in continuing their engineering education. The students interested in an industrial position must prepare a resume and submit the necessary job applications through the college placement director to complete satisfactorily this course. Senior standing in the Engineering Transfer Department is required. *Offered Fall Semester*



6217 - MECHANICS 1 3 credits

A vector approach to the study of engineering statics. This includes the resolution and composition of forces as applied to the analysis of systems in static equilibrium. Friction, centroids and moments of inertia are investigated. Prerequisite: Mathematics 2350-53 and Physics 3015. *Offered Fall Semester*

6218 - MECHANICS 2 3 credits

A vector approach to kinematics and particle kinetics utilizing Newton's Laws of Motion, Conservation of Energy and the concept of Impulse and Momentum. Problems of rotation and translation are analyzed in rectilinear and curvilinear co-ordinates. Prerequisite: Mechanics 1 (6217). *Offered Spring Semester*

6219 - SYSTEMS ANALYSIS 1 4 credits

Physical characteristics and mathematical models of system elements with an emphasis on electrical circuits, techniques for writing and solving system dynamic equations. Three hours of lecture and one three hour laboratory. PREREQUISITE: Math 2354 57. *Offered Fall Semester*

6220 - SYSTEMS ANALYSIS 2 4 credits

Concepts relating to transfer functions: digital and analog solutions of system equations, time and frequency domain analysis techniques and stability. Three hours of lecture and one three hour laboratory. PREREQUISITE: Systems Analysis 1 (6219). *Offered Spring Semester*

6221 - INTRODUCTION TO MATERIAL SCIENCE 3 credit

The atomic and molecular phenomena responsible for the behavior of materials. The relationship between the atomic structure of materials and their behavior is emphasized. Prerequisite: Chemistry 22 (3006). *Offered Fall Semester*

6224 - ENGINEERING MEASUREMENT AND ANALYSIS 3 credits

Introduction to engineering measurements and analysis relating scientific principles to engineering applications stressing experimental methods, data aquisition and processing. Two hours of lecture and one three hour laboratory. PREREQUISITES: Mechanics 1 (6217); and Systems Analysis 1 (6219). *Offered Spring Semester*

6226 - INTRODUCTION TO CHEMICAL ENGINEERING 3 credit

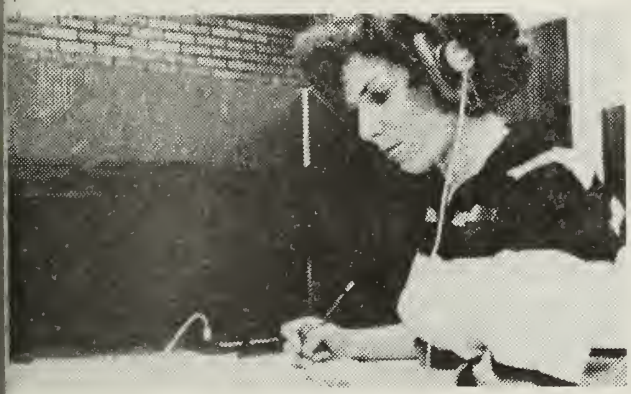
An introduction to the material and energy balance commonly applied to processes in the chemical, petroleum and environmental fields. Also included is a study of the pressure volume temperature relationships of gases and a brief

ntroduction to selected thermodynamic properties of solids, quids and gases. Computer solutions are utilized in selected roblems. Prerequisites: Math 2354-57, Chemistry 22, 3006 nd Introduction to Engineering 22, 6175.

Offered Fall Semester

227 - ENGINEERING THERMODYNAMICS 1 3 credits
classical presentation of the study of the laws of onservation of matter and energy, the three basic laws of hermodynamics and their application to batch and flow rocesses. Thermal properties of ideal and real gases, solids and quids including internal energy, enthalpy and entropy are resented. Energy cycles are discussed. PREREQUISITES: lath 2358-61 and Physics 21 (3015). *Offered Spring Semester*

6228 - ENGINEERING THERMODYNAMICS 2 3 credits
Continuation of Engineering Thermodynamics 1. Deals with he engineering applications. These include fluid mechanics, as dynamics, gas and vapor power cycles, refrigeration, heat ransfer and chemical reactions and equilibrium. Prerequisite: ngineering Thermodynamics 1 (6227). *Offered Fall Semester*



231 - FLUID MECHANICS 3 credits
his course consists of a study of fluid statics and kinematics. complete study of frictionless incompressible flow using ernoulli's equation, the continuity equation and the omentum equation is presented and applied to various ngineering problems. The concept of viscosity and laminar scous flow is introduced using the Navier Stokes equation in ctangular and cylindrical co-ordinates. Pipe friction and the eynolds number in laminar and turbulent flow are discussed. he boundary layer equations on laminar and turbulent flows e developed. Corequisite: Engineering Mathematics (2020).

Offered Fall Semester

232 - NUMERICAL ANALYSIS & COMPUTER METHODS 3 credits
xtensive application of the FORTRAN language to diverse ngineering problems. Numerical techniques for evaluating unctions, curve fitting, interpolation, differentiation and ntegration, and solving systems of algebraic and first and econd order differential equations. Satisfies concentration equirements for transfer in computer science. REREQUISITE: 6175, Introduction to Engineering 2/Computer Programming. *Offered Fall Semester*

235 - HEAT TRANSFER 3 credits
study of the fundamental laws of heat transfer by conduction, convection and radiation. Application of conduction and convection to insulation and heat exchanger design. Selected one, two and three dimensional problems in conductive heat transfer are solved using analytical, graphical and numerical techniques. Heat transfer in laminar and turbulent boundary layers in compressible fluids are investigated. Radiative heat exchange is examined. Prerequisite: Fluid Mechanics (6231). *Offered Spring Semester*

6236 - MATERIAL SCIENCE LAB 1 credit
This course is an introduction to mechanical testing and the metallography of metals and alloys. This course must be taken concurrent with 6221. *Offered Fall Semester*

6238 - MECHANICS OF MATERIALS 3 credits
A study of the stress-strain relationships in solids subjected to external force loads. This includes tension, compression, torsion, flexure and deflection of columns and beams. Prerequisite: Mechanics 1 (6217). *Offered Spring Semester*

6240 - INTRODUCTION TO DIGITAL SYSTEMS 3 credits
An introduction to the theory of digital circuits, stressing general techniques for the analysis and synthesis of combinational and sequential logic systems.

Offered Fall & Spring

6241, 6242, 6243, 6244, 6245, 6246, 6247, 6248, 6249 - PROGRAMMED ENGINEERING GRAPHICS

Offered Fall & Spring

6241 - MODULE 1 1 credit
Instruments and their use, applied geometry, orthographic drawing and sketching.

6242 - MODULE 2 1 credit
Lettering, auxiliaries: normal and edge views, sections and conventions.

6243 - MODULE 3 1 credit
Intersections and developments, drawings and the shop working drawings.

6244 - MODULE 4 1 credit
Dimensions, notelimits, catalogues.

6245 - MODULE 5 1 credit
Introduction, electricity and batteries, schematics, assembly-disassembly.

6246 - MODULE 6 1 credit
Power Distribution Graphics: Electrical drafting, contractor drawings.

6247 - MODULE 7 1 credit
Electronics Graphics: Electrical (Electronic Drafting), system design, special equipment.

6248 - MODULE 8 1 credit
Architectural Graphics: Oblique drawings, drawing of structures, graphical vector analysis.

6249 - MODULE 9 1 credit
Perspective drawings, shapes and shadows, presentation drawings.

6251-626/ - MACHINE SHOP TECHNIQUES 1 cr. per module
Offered Fall & Spring

6251 - MODULE 1 - Basic Shop Techniques
6252-MODULE 2 - Advanced Lathe Operation
6253-MODULE 3 - Advanced Milling Machine Operations
6254-MODULE 4 - Tape Machine Operations
6255-MODULE 5 - Grinding Machine Operations
6256-MODULE 6 - Jig Boring
6257-MODULE 7 - Elementary Welding
6258-MODULE 8 - Heat Treating
6259-MODULE 9 - Jig Welding
6260-Module 10 - Forging Techniques
Prerequisites: Module 1,7-8 none. Remaining modules by permission of instructor.

BIOLOGY

3026 - ECOLOGY 4 credits
An introductory course surveying broad ecological principles with considerable emphasis to be placed on the study of the plant-animal interrelationships, and energetics of local freshwater and terrestial habitats. Additional topics to be discussed will include the analysis of organizational patterns and dynamics of populations, communities and ecosystems. Trips to local biotic communities will stress investigative learning and field study. Prerequisite: General Biology or permission. *Offered Spring Semester*

3028 - MICROBIOLOGY 4 credits
A basic study of micro-organisms, their activities, destruction and control. The concepts of infection, immunity and hypersensitivity precede the survey of the microbiology of major infectious diseases. Prerequisites: High School Chemistry and Biology. *Offered Fall & Spring*

3051 - INVESTIGATIONS IN BIOLOGY 1 4 credits
This course is designed for highly motivated prospective science majors. Attendance in the regular 3080 lecture will be required. A three-hour lab discussion session will be required as well. Prerequisite: Permission of Department Chairman.
Offered Fall & Spring

3052 - INVESTIGATIONS IN BIOLOGY 2 4 credits
A continuation of 3051. Attendance in regular 3081 lectures is required. Prerequisite: 3051 and permission of Department Chairman. *Offered Fall & Spring*

3077 - HUMAN BIOLOGY 1 4 credits
This course is an integration of anatomy, physiology and clinical laboratory procedures that will prepare medical assistants to aid the physician in his diagnosis and treatment of a patient's illness. A comprehensive study is made of the structure and function of the human body. The course emphasizes the study of cells and tissues as related to the skeletal, muscular, respiratory and circulatory systems. Clinical laboratory procedures stressed in Human Biology 1 and Human Biology 2 are: Hematology, Simple Microbiology, Immunology, Urinalysis, and other routine chemical tests. Open to Medical Assistants and Medical Secretaries only.
Offered Fall Semester

3078 - HUMAN BIOLOGY 2 4 credits
This is a continuation of Human Biology 1. This program includes the nervous, endocrine, digestive and genito-urinary systems and their relationships to total body organization. Prerequisite: Human Biology 1 (3077).
Offered Spring Semester

3079 - INTRODUCTORY ZOOLOGY 4 credits
This course is designed for students who need one semester of a laboratory science to fulfill their program requirements. The course introduces the principles of zoology including cell structure and function: the physiology, heredity, development, behavior and evolution of animals, and is supplemented by laboratory examination of the anatomy of the major groups in the animal kingdom. No prerequisites.
Offered Spring Semester

3080 - GENERAL BIOLOGY 1 4 credits
Geared to the prospective science major, the first semester of this course focuses on a study of chemical and cellular similarities in living organisms emphasizing the basic unity of life. General morphology and physiology of plants and vertebrate and invertebrate animals are discussed with emphasis on the vascular plant and human organ systems. Prerequisites:Qualified science majors, allied health candidates or permission of the instructor. *Offered Fall Semester*

3081 - GENERAL BIOLOGY 2 4 credits
Modern concepts in animal behavior, genetics, population biology and ecology and evolution are discussed. A survey of plant and animal kingdoms emphasizes diversity, similarities and possible evolutionary patterns. Prerequisite: General Biology 1 (3080). *Offered Spring Semester*

3085 - NATURAL HISTORY 4 credits
This course provides the student with the background and tools needed to organize and lead science activities on the pre-school level. Topics include Astronomy, Geology, Meteorology, Botany, Zoology and Ecology with emphasis on Field Word. This course is restricted to student enrolled in the Early Childhood Education Program. No prerequisites.
Offered Fall Semester

3088 - ENVIRONMENTAL MICROBIOLOGY 3 credits
A general investigation of microbial structure, growth and physiology and the reactions of micro-organisms to their physical and chemical environment. Prerequisite:Chemistry 1 (3002) or Chemistry 2 (3086). *Offered Spring Semester*

3091 - ANATOMY & PHYSIOLOGY 1 4 credits
A comprehensive study of the structure and function of the human body, emphasizing the normal, which will serve as a

background for the application of scientific principles both in everyday life and in the work of the various health disciplines. Laboratory practice includes the study of tissues by using microscopic examinations and the dissection of animal specimens, along with physiological experimentation. Units covered are concerned with general introductory material, the skeleton, muscles and the nervous system. Prerequisites: Biology and Chemistry. *Offered Fall Semester*

3092 - ANATOMY & PHYSIOLOGY 2 4 credits

A continuation of Anatomy and Physiology 1 concentrating on body metabolism, reproduction and endocrine control. Laboratory sessions are included. Emphasis is placed on association, correlation, critical thinking and overview of the body as a whole. Prerequisite: Anatomy and Physiology 1 (3091). *Offered Spring Semester*

3093 - HUMAN ANATOMY 1 4 credits

(For Operating Room Technicians) This program correlates gross and microscopic anatomy with the physiology of the human body, system by system. Stress is given to areas of special concern to the operating room technician. Three lectures, one two-hour lab.

3099 - BASIC SCIENCE 3 4 credits

Introduction to experimental biology, through interpretation of many simple experiments. Emphasis on development of the student's confidence, initiative and self-reliance. Survey of general biological principles, including modern genetics, ecology, evolution and human organ systems. Prerequisite: None. The course serves as preparation for other college biology courses and is suitable for students who have taken no previous science. PREREQUISITE: 3033. *Offered Spring Sem.*

3100 - PRINCIPLES OF BIOLOGY 1 4 credits

An introductory course designed to meet the needs of the student who has no background in chemistry or biology. It is a two-semester presentation of the basic concepts of life science for the transfer student who does not plan to major in science. The first semester provides a survey of fundamental biological concepts including: the cell theory, maintenance in plants and animals, reproduction and development, genetics, evolution and diversity and plants and animals in their environment. These concepts are reinforced and augmented by laboratory activities which investigate life processes in plants and animals. No prerequisites. *Offered Fall Semester*

3101 - PRINCIPLES OF BIOLOGY 2 4 credits

The second semester is a continuation of 3100 and examines in greater depth the concepts presented in Principles of Biology 1. Certain concepts covered in the first semester are expanded in order to gain an understanding of the function of the human body and man's interaction with his environment, while others are examined on a molecular level to comprehend the cellular approach to modern biology. Topics include: Biochemistry, Human Anatomy and Physiology, Reproduction and Development, Modern Genetics, Modern Evolution and Ecology. PREREQUISITE: 3100 - Principles of Biology 1, or by permission of the Instructor. *Offered Spring Semester*

3130 - BIOLOGY OF MAN 4 credits

This course is designed to meet the needs of the student who has no background in biological science. Basic biological concepts are presented with emphasis on the human body. This is a one-semester program and may be used for students who require 4 credit hours in a lab science. It is recommended for students enrolled in the Court Reporting Program. No prerequisites. *Offered Spring Semester*

3132 - HISTOLOGY 4 credits

A study of the microscopic anatomy of cells, tissues and organs as related to function. Emphasis is on mammalian systems. Discussion of microtechnique, electronphotomicroscopy and tissue culturing will be introduced. Prerequisites: Biology (3080, 3081); Anatomy and Physiology (3091, 3092); Human Biology (3077, 3078); or permission of instructor. *Offered Fall Semester*

3134 - EMBRYOLOGY 4 credits

This course will expose the student to the fundamental growth processes and mechanisms that govern normal growth and development in the chick and pig embryos. Emphasis will be placed on the development of major organs and organ systems and how these systems develop into normal adult structure. Laboratory experiments, models and slides will be used to reinforce the basic principles of normal development and thus provide a basis for the discussion of abnormal development. Prerequisites: Biology (3080, 3081); Biology (3100, 3101); Anatomy and Physiology (3091, 3092); or permission of instructor. *Offered Spring Semester*

3136 - GENETICS 4 credits

An introduction to the principles of classical and biochemical genetics, surveying microbial genetics, population genetics and human heredity. Laboratory experiments are designed to demonstrate the major principles discussed in lecture. PREREQUISITE: General Biology, Anatomy & Physiology, General Chemistry or permission of instructor.

Offered Spring Semester

3138 - BIOCHEMISTRY FOR HEALTH SCIENCES 3 credits

An introduction to biochemical principles. Emphasis is on the major metabolic pathways, the mechanisms of enzyme action, bioenergetics and the role of hormones and other regulatory substances. PREREQUISITES: General Biology, Anatomy & Physiology, General Chemistry or permission of instructor.

Offered Fall Semester

3139 - BIOLOGIA EN ESPANOL 1 4 créditos

Curso introductorio diseñado para el estudiante que no tiene ninguna experiencia en el campo de la biología y de la química. La duración del curso es de dos semestres y está diseñado para el estudiante que no piensa concentrarse en las ciencias. El primer semestre provee un estudio de los diferentes fundamentos biológicos que incluyen: la teoría celular, el mantenimiento de las plantas y los animales, la reproducción y el desarrollo, la genética, la evolución y la diversidad. Los conceptos del curso serán reforzados y complementados por las actividades del laboratorio por el cual se investigarán los procesos de la vida de las plantas y de los animales. PREREQUISITO: Ninguno.

Curso se ofrece en el semestre de otoño.

3140 - BIOLOGIA EN ESPANOL 2 4 créditos

El segundo semestre es una continuación de 3139, y examina mas a fondo los conceptos presentados en la Biología del primer semestre. Algunos conceptos presentados en el primer semestre serán expandidos de manera de tener un mejor entendimiento del cuerpo humano y de la relación del hombre con su ambiente; mientras y otros se examinarán a un nivel molecular para comprender el acercamiento celular a la biología moderna. Tópicos que incluye: Bioquímica, Anatomía Humana y Fisiología, Reprodución y Desarrollo, Genética Moderna, Evolución Moderna y Ecología. PREREQUISITO: 3139 Biología 1.

3145 - APPLIED PHYSIOLOGY 4 credits
This course takes various concepts in human physiology and by a lecture-laboratory approach the physiological principles are explained and illustrated by laboratory experience and clinically oriented tests. The instrumentation and methodology used in studying physiology and making clinical evaluation are emphasized. Aspects of the cardiovascular, respiratory, excretory, immune and nervous systems are investigated in this course. PREREQUISITES: Anatomy & Physiology 3091 & 3092. *Offered Spring Semester*

3220 - HUMAN ANATOMY & PHYSIOLOGY FOR MENTAL HEALTH/HUMAN SERVICES 1 3 credits
This is a course requiring no prior biological background. The organization of the human body from the cellular level to the various organ systems is included. Consideration of the pathological process in the human is integrated into the discussion of each organ system. This course combines lectures and appropriate demonstrations of physiological function. The first semester will include a consideration of cells and tissue and an emphasis on the regulatory systems of the body with particular emphasis on the nervous system. Restricted to Dept. 49. *Offered Fall Semester*

3221 - HUMAN ANATOMY & PHYSIOLOGY FOR MENTAL HEALTH/HUMAN SERVICES 2 3 credits
The second semester is a continuation of 3220 and will include a consideration of the cardiovascular, respiratory, digestive, urinary and reproductive systems. Restricted to Dept. 49. PREREQUISITES: Human Anatomy & Physiology for Mental Health/Human Services 1 (3220). *Offered Spring Semester*

CHEMISTRY

3002 - CHEMISTRY 1 4 credits
A study of the fundamental principles of chemistry in relation to the properties, composition and structure of matter. A primary aim of the course is to prepare students for subsequent courses in the technologies. Chemistry 1 is a one-semester terminal chemistry course. Three one-hour lectures per week, one three-hour lab. Prerequisite: Concurrent Math 2321-2323 and one year of high school physical science or equivalent. *Offered Fall & Spring*

3003 - CHEMISTRY OF LITHOGRAPHY 2 4 credits
Topics in chemistry relating to the graphic arts including photography and photographic processes, colors, inks and printing. Laboratory. *Offered Spring Semester*

3005 - GENERAL CHEMISTRY 21 4 credits
An introductory course in general chemistry designed to parallel the first year chemistry courses offered at universities for science and engineering students. Modern theories of chemical reactions, chemical bonding, atomic and molecular structures are emphasized. Three one-hour lectures per week, one three-hour lab. Prerequisites: One year of High School Physical Science and Math (2334) or equivalent. *Offered Fall Semester*

3006 - GENERAL CHEMISTRY 22 4 credits
A continuation of Chemistry 21. Equilibrium, reaction rates, thermodynamics, acid/base and redox reactions are stressed. The student is also introduced to basic organic chemistry and quantitative analysis. *Offered Spring Semester*

3009 - AUTOMOTIVE CHEMISTRY 4 credits
A study of specialized topics which are of particular interest in automotive technology. Topics covered are petroleum and how it is refined, gasoline, diesel fuel, gaseous fuels, atmospheric pollution, lubrication and lubricants, the chemistry of batteries, corrosion, hydraulic fluids and antifreeze compounds. The laboratory work consists of selected experiments with various small engines and oil and fuel testing apparatus. Prerequisite: 3002 - Chemistry 1. *Offered Fall Semester*

3061 - INDEPENDENT CHEMISTRY STUDY 1 1,2,3 or 4 cr.
Independent study or laboratory project in Chemistry under direction of an instructor. Prerequisite: Permission of the Department Chairman. *Offered Fall & Spring*

3062 - INDEPENDENT CHEMISTRY STUDY 2 1,2,3 or 4 cr.
A continuation of 3061. Prerequisite: 3061 and permission of Department Chairman. *Offered Fall & Spring*

3086 - CHEMISTRY 11 4 credits
An introduction to the chemical properties of matter, chemical structure and inorganic chemistry. The laboratory work investigates both physical and chemical principles and introduces the student to analytical procedures. Laboratory. Prerequisite: Two years of algebra plus one year of Chemistry. *Offered Fall Semester*

3087 - CHEMISTRY 12 4 credits
A continuation of Chemistry 11 with an introduction to analytical chemistry including both volumetric and gravimetric analysis. The laboratory work is designed to apply the analytical principles covered in lecture. Prerequisite:3086 *Offered Spring Semester*

3095 - SCIENCE & TECHNOLOGY IN SOCIETY 3 credits
A non-technical course which explores the practical, social and ethical questions raised by science and technology. The ability of social institutions to cope with technological questions, the role of experts in government and evaluating the secondary effect of technology will be covered. These problems will be approached using both general readings and case studies of the ABM issue, the Montague atomic reactor controversy and other current debates.

3106 - ORGANIC CHEMISTRY 4 credits
A one-semester survey course in organic chemistry at the university level. Reactions, synthesis and properties of organic compounds will be emphasized. Mechanisms of organic reactions and the structure of organic molecules will be studied. Three one-hour lectures per week, one three-hour lab. Prerequisite: Chemistry 22(3006) or permission of instructor. *Offered Fall Semester*

3109 - GENERAL CHEMISTRY 101 4 credits
A one-year general chemistry course for students in the Health Sciences and for transfer students who do not wish to major in a science or engineering. The first semester of the course will consist of a study of the general principles of inorganic chemistry, stressing concentration, dilution,equilibrium and descriptive chemistry. Three one-hour lectures per week, one three-hour lab. Prerequisite: Math 2321-22-23 and one year of high school laboratory science or permission of instructor. *Offered Fall Semester*

3110 - GENERAL CHEMISTRY 102 4 credits
The second semester will concentrate on organic and biochemistry. Prerequisite: General Chemistry 101 (3109). Three one-hour lectures per week, one three-hour lab. *Offered Spring Semester*

3111-3118 - GENERAL CHEMISTRY 21 & 22
Offered Fall & Spring 1 cr. per module

3111 - MODULE 1
Units and conversions, atomic structure, atomic weight, mole concept, balancing equations, theoretical yields.

3112 - MODULE 2
Gases, pressure, Boyle's, Charles', Guy Lussac's and Dalton's Laws, ideal and real gases, kinetic theory.

3113 - MODULE 3
Periodic Table, electronic configuration of atom, quantum theory, bonding molecular geometry and bonding.

3114 - MODULE 4
Physical properties in relation to structure, changes in states, solutions.

3115 - MODULE 5
Equilibrium.

3116 - MODULE 6
Thermodynamics and rates of reaction.

3117 - MODULE 7
Acids and bases.

3118 - MODULE 8
Oxidation, reduction, introduction to organic chemistry. Prerequisites: Same as Chemistry 21 (3005). Each module includes four laboratories which must be completed before the next module can be started.

3120 - BIOCHEMISTRY 4 credits
A one-semester course in biochemistry on the university level. The structure, properties and reactions of biological compound will be studied. Three one-hour lectures per week, one three-hour lab per week. Lecture may be taken without laboratory. Prerequisite: One semester of organic chemistry or permission of instructor. *Offered Spring Semester*

3125 - ORGANIC CHEMISTRY 1 4 cr. w/lab,3 cr. no lab
A one-year course in organic chemistry at the university level. Reaction, synthesis and mechanism of organic reactions will be studied. This course is designed for transfer students with majors in chemistry, biology, pre-med or pre-dental. Three three-hour lectures per week, one four-hour lab per week. Lecture may be taken with no lab. Prerequisite: Chemistry 22 (3006) or permission of instructor. *Offered Fall Semester*

3126 - ORGANIC CHEMISTRY 2 4 cr. w/lab,3 cr. no lab
A continuation of Organic Chemistry 1 (3125).
Offered Spring Semester

3127 - INSTRUMENTAL ANALYSIS 4 credits
The theory and practice of modern analytical methods utilizing spectro scopic, chromatographic and colorimetric techniques will be stressed. The laboratory will include selected experiments having clinical and industrial relevance. Prerequisites.: General Chemistry (3006 or 3110) or permission of the instructor.

3128 - QUANTITATIVE ANALYSIS 4 credits
An introductory course in quantitative methods of analysis. Gravimetric, laboratory volumetric and colormetric methods will be used primarily. Prerequisites: General Chemistry 22 (3006) and Math (2334). *Offered Fall Semester*

3122 - SEMINARS IN APPLIED CHEMISTRY 1 credit
This course is a series of lectures by invited chemists practicing in non-academic laboratories. Sponsored jointly with the Cooperating Colleges of Greater Springfield. Offered every other Spring Semester.

MATHEMATICS

2001 - INDEPENDENT STUDY OF MATHEMATICS 1,2,3 or 4 cr.
Independent study of special topics in mathematics under the direction of an instructor. Prerequisite: Permission of the Department Chairman. *Offered Fall & Spring*

2002 - INDEPENDENT STUDY OF MATHEMATICS 1,2,3 or 4 cr.
Continuation of 2001. Prerequisite: 2001 and permission of the Department Chairman. *Offered Fall & Spring*

2008 - MATHEMATICS 15 3 credits
Rational numbers including percentage and related business problems, reductions and conversions, algebraic operations, solutions of linear equations, plane geometric figures and an introduction to trigonometry. Restricted to Landscape and Graphic Arts students. Prerequisite: Math 2313 or equivalent.
Offered Fall Semester

2009 - MATH. 16 COMPUTER LOGIC 3 credits
Introduction to classical logic, Boolean algebra and binary arithmetic as applied to the operation of mechanical, electro-mechanical and electronic devices. Prerequisite: Mathematics 2343. *Offered Spring Semester*

2012 - MATHEMATICS 22 4 credits
Indefinite and definite integration of algebraic functions. Differentiation and integration of transcendental functions. Techniques of integration including trigonometric substitutions, integration by parts, method of partial fractions and completing the square. Computations of plane areas, volumes of solids of revolution, arc lengths, surface areas and centers of masses of volumes, areas and arc lengths with definite integrals. Equivalent to Mathematics 2354-57.
Offered Spring Semester

2013 - MATHEMATICS 23 4 credi
Solid analytic geometry and vectors, infinite series includi Taylor's Theorem, partial derivatives, gradient, tot differential, line integrals, multiple integration, linear algebra, vector spaces and vector products. Equivalent to Mathematics 2358-2361. Prerequisite: Mathematics 22-2012.
Offered Fall Semester

2014 - MATHEMATICS 24 4 credits
Classical methods of solution of first order and linear higher order ordinary differential equations. Laplace Transform solutions of linear ordinary differential equations. Power series solutions of linear ordinary differential equations including

Bessel's and Legendre's differential equations. Equivalent to Mathematics 2362-65. Prerequisite: Mathematics 23 (2013) or its equivalent. *Offered Spring Semester*

2015 - STATISTICS & QUALITY CONTROL 4 credits
An introduction to basic statistics. Construction and use of control charts, the use of sampling plans and related topics. The organization of a quality control department is considered with emphasis on the functions of its components. Prerequisite: Mathematics 2343. *Offered Fall & Spring*

2016 - STATISTICS 1 3 credits
Description methods of catagorical and numerical data: central tendency and deviation. Probability; binomial distribution, normal distribution. Bayes theorem. Sampling. Normal Distribution of Sample Means. PREREQUISITE: Math 2333 or Finite 1 (2080). *Offered Fall & Spring*

2018 - STATISTICS 2 3 credits
Following the pattern of 2016 the student will continue with samples to estimate population characteristics; hypothesis testing, confidence intervals, t-distribution. Approximate tests: Chi-square distribution multinomial data. Regression and correlation. PREREQUISITE: 2016, Statistics 1.
Offered Fall & Spring

2020 - ENGINEERING MATHEMATICS 3 credits
Review of power series solutions of ordinary differential equations; Bessel Functions; Fourier series; Sturm-Liouville systems; Laplace transformations; elementary partial differential equations and applications; introduction to complex variables. PREREQUISITE: Mathematics 2365 or its equivalent. *Offered Fall Semester*

2076 - CONTEMPORARY MATHEMATICS 1 3 credits
Concepts of set theory and symbolic logic, mathematical systems, systems of numeration, structural properties. Development of the real number system: natural numbers-integers-rationals-reals. Prerequisite: 2313 or one year of high school algebra. *Offered Fall & Spring*

2077 - CONTEMPORARY MATHEMATICS 11 3 credits
Sentences in one variable and systems of sentences in two variables. Metric and nonmetric geometry, introduction to coordinate geometry. Introduction to statistics. Prerequisite: 2076. *Offered Fall & Spring*

2080 - FINITE MATHEMATICS 1 3 credits
Sets, functions and relations, logic, linear programming, lytical geometry, probability and non-linear curves. REQUISITE: High School algebra or Math 2323.
Offered Fall & Spring

31 - FINITE MATHEMATICS 2 3 credits
ifferential and integral calculus, vectors and matrics, Markov Chains. PREREQUISITES: Finite Math 1. (2080).
Offered Fall & Spring

2082 - ANALYTIC GEOMETRY & CALCULUS 1 3 credits
Introduction to analytic geometry, functions, limits and derivatives. Differentiation of algebraic functions and applications. Prerequisite: Mathematics 2343 or its equivalent.
Offered Fall Semester

2083 - ANALYTIC GEOMETRY & CALCULUS 2 3 credits
Integral calculus and applications; functions of several variables; partial differentiation; solid analytic geometry; vectors. Prerequisite: Mathematics 2082.
Offered Spring Semester

2084 - MATHEMATICS OF RADIOLOGY 3 credits
This is a review and presentation of the math necessary for the intelligent and versatile use of x-ray equipment. It is also the basis of the math needed for nuclear medicine and radiation therapy and is also taken by these students.
Offered Fall Semester

2085 - ANALYTIC GEOMETRY 3 credits
Functions and graphs; the straight line, conic sections; transformation of coordinates; polar coordinates; solid analytic geometry; vectors; cylindrical and spherical coordinates. Prerequisite: Two years of high school algebra and trigonometry or Mathematics 2343. *Offered Fall Semester*

2086 - CALCULUS 1 3 credits
Functions; limits; continuity; differentiation of algebraic functions and applications; integration and applications. Prerequisite: Analytic Geometry (2085).
Offered Spring Semester

2087 - CALCULUS 2 3 credits
Transcendental functions; techniques of integration; functions of several variables. Prerequisite: Calculus 1 (2086).
Offered Fall Semester

2088 - CALCULUS 3 3 credits
Partial differentiation; multiple integrals, infinite series; matrices and determinants. Prerequisite:Calculus 2 (2087).
Offered Spring Semester

2089 - LINEAR ALGEBRA 3 credits
Geometric vectors; vector spaces; systems of linear equations; inner product spaces; linear transformations and matrices; determinants; Eigenvalues and Eigenvectors isometrics; linear and bilinear forms. Corequisite: Calculus 3 (2088) or mathematics 23 (2013). Prerequisite: Calculus 2 (2087) or mathematics 22 (2012). *Offered Spring Semester*

2090 - DIFFERENTIAL EQUATIONS 3 credits
Types and applications of differential equations of the first order; integral curves; linear differential equations with constant coefficients; applications. Prerequisite: Calculus 3 (2088). *Offered Spring Semester*

2095 - MINI-CALCULATORS 1 credit
The purpose of this course is to provide instruction in the use of hand-held calculators so that students are able to use the full potential of their calculators. Students will be required to solve problems designed to make full use of all the keyboard functions available. Scientific notation will be stressed whenever appropriate. Worksheets and other auto-tutorial materials will be provided to assist the student. PREREQUISITE: 2311-13. *Offered Fall & Spring*

2092 - INTRODUCTORY ANALYSIS 3 credits
Topology of the real number system. Limits and continuity. Differentiation. Partial Differentiation. Riemann-Stieltjes integration. Prerequisite: Mathematics 2358-62.
Offered Spring Semester

2101 - MATEMATICAS 1 crédito
Course contents same as 2301. El concepto de números enteros positivos, el cero y el sistema de lugar para el valor. Suma, resta, multiplicación y división de números enteros positivos. Exponentes cuadrado perfector, raíz cuadrada, números primos, números compuestos y factorización prima.

2102 - MATEMATICAS 1 crédito
Course contents same as 2302. Fracciones y decimales. Suma, resta, multiplicacińn y división de ambos, decimales y fracciones. Reduciendo fracciones y convirtiendo fracciones a decimales. Pre-requisito: 2101 o su equivalente.

2103 - MATEMATICAS 1 crédito
Course contents same as 2303. Cambiar porciento a fracciones y fracciones a porciento. La solución de varios tipos de problemas de porcientos. Una introducción a numerales denominados. Geometría plana. Pre-requisito: 2102 o su equivalente.

2111 - MATEMATICAS 1 crédito
Course contents same as 2311. La relación de los números enteros positivos y el cero con conjuntos, numerales y números. Operaciones binarias de suma, resta, multiplicación y división. Soluciones de ecuaciones lineares simples. Propiedades de los números enteros positivos y el cero. Las cinco propiedades de los exponentes. Pre-requisito: 2103 o su equivalente.

2112 - MATEMATICAS 1 crédito
Course contents same as 2312. Suma, resta, multiplicación y división de los números enteros. Simplificaciones de expresiones numerales conteniendo enteros, valores absolutos y exponentes. Simplificación de expresiones variables. Pre-requisito: 2111 o su equivalente.

2113 - MATEMATICAS 1 crédito
Course contents same as 2313. Propiedades y axiomas de los números reales. Suma, resta, multiplicación y división de expresiones fraccionales. Pre-requisito: 2112 o su equivalente.

2300 - MATHEMATICS

There are 15 audio-tutorial mathematics classes in the 2300-MATHEMATICS series. They are:

2301	2311	2321	2331	2341
2302	2312	2322	2332	2342
2303	2313	2323	2333	2343

A complete description of these audio-tutorial mathematics courses is available in the "Student Information Booklet." Copies of this booklet are available without charge by writing to: Chairman, Mathematics Department, STCC, 1 Armory Square, Springfield, Ma. 01105.

2301 - MATHEMATICS 1 credit
The concept of whole numbers and the place value system. Addition, subtraction, multiplication and division of whole numbers. Exponents, perfect square roots, primes, composites and prime factoring.

2302 - MATHEMATICS 1 credit
Fractions and decimals. Addition, subtraction, multiplication and division of both fractions and decimals. Reducing fractions and converting fractions to decimals. Prerequisite: 2301 or its equivalent.

2303 - MATHEMATICS 1 credit
Changing percentage to fractions and fractions to percentage. The solution of the various types of percentage problems. An introduction to denominate numerals. Elements of plane geometry. Prerequisite: 2302 or its equivalent.

2311 - MATHEMATICS 1 credit
The relationship of whole numbers to sets, numerals to numbers. Binary operations of addition, subtraction, multiplication and division. Solutions to simple linear equations. Five fundamental properties of equations. Properties of exponents. Prerequisite: 2303 or its equivalent.

2312 - MATHEMATICS 1 credit
The set of integers. Addition, subtraction, multiplication and division of integers. Operations with variable expressions. Introduction to solving linear equations. Prerequisite: 2311.

2313 - MATHEMATICS 1 credit
Rational, irrational and real numbers. Properties of fractional expressions. Multiplication and division, addition and subtraction of first degree fractional expressions. PREREQUISITE: 2312.

2211 - MATHEMATICS 1-3 credits
Same course content as 2311, 2312 and 2313, except courses are taught on a lecture basis rather than a programmed basis.
Offered Fall & Spring

2321 - MATHEMATICS 1 credit
Multiplication and division of algebraic expressions. Factoring. Solving linear quadratic equations. Operations with fractional expressions. Solving fractional and absolute value equations. Solving inequalities.

2322 - MATHEMATICS 1 credit
Negative exponents and scientific notation. Introduction to radicals and fractional exponents. Operations with radical expressions. Using the quadratic formula and solving equations with radical expressions. PREREQUISITE: 2321.

2323 - MATHEMATICS 1 credit
The concept of an ordered pair and the real number plane. Methods of graphic linear, quadratic and absolute value equations. Systems of linear equations solved analytically and graphically. Functions and relations are defined and applied. PREREQUISITE: 2322 or its equivalent.

2221 - MATHEMATICS 1-3 credits
Same course content as 2321, 2322 and 2323, except courses are taught on a lecture basis rather than a programmed basis.
Offered Fall & Spring

2331 - MATHEMATICS 1 credit
Angles and their measure, Phythagorean Theorem, an introduction to right triangle trigonometry and vectors. PREREQUISITE: 2323 or its equivalent.

2332 - MATHEMATICS 1 credit
Introduction to sets, graphs and field properties, factoring, algebraic fractions, exponents and radicals. PREREQUISITE: 2331.

2333 - MATHEMATICS 1 credit
Solution sets of linear and quadratic equations, relations and functions, both linear and quadratic. PREREQUISITE: 2332.

2231 - MATHEMATICS 1-3 credits
Same course content as 2331, 2332 and 2333, except courses are taught on a lecture basis rather than a programmed basis.
Offered Fall & Spring

2074 - PRE-CALCULUS 1 4 credits
This course is designed to provide the intensive mathematical preparation necessary for students who intend to enroll in the engineering calculus sequence of courses. Topics include sets, real numbers, order, absolute value, functions and relations, linear and quadratic functions, rational functions, inverse functions, systems of equations, determinants, and analytic geometry of the straight line and conic sections. Three hours of lecture and one three hour problem session. PREREQUISITES: Math 2321-23 or its equivalent.
Offered Fall Semester

2075 - PRE-CALCULUS 2 4 credits
A continuation of Pre-Calculus 1 with an emphasis on the transcendental functions. Topics include the exponential and logarithmic functions, finite sums and series, trigonometric functions, trigonometric equations, trigonometric identities, triangle trigonometry, vectors in the plane, the algebra of complex numbers, and polar coordinates. Three hours of lecture and one three-hour problem session. PREREQUISITES: Pre-Calculus 1. *Offered Spring Semester*

2334 - MATHEMATICS—SLIDE RULE 1 credit
Scientific notation, slide rule, multiplication and division, ratio and proportion, square and cube roots, logarithms and trigonometric functions. PREREQUISITE: Mathematics 2303 or its equivalent. Also the use of various calculators; their functions, limitations, etc. in conjunction with the use of the slide rule for mathematical calculations will be taught. The course would begin with basic four function calculators and advance to the more complex models. *Offered Fall & Spring*

2341 - MATHEMATICS 1 credit
Properties and applications of special functions and relations, conic sections variation, inverse functions, exponential functions. PREREQUISITE: 2333 or its equivalent.

2342 - MATHEMATICS 1 credit
Logarithms and interpolation, computation using logarithms, solution sets of exponential, radical and quadratic equations. PREREQUISITE: 2341.

2343 - MATHEMATICS 1 credit
The Binomial Theorem, sequences and series, complex numbers, properties of logarithms, trigonometric functions and their graphs, the law of sines and law of cosines. PREREQUISITE: 2342.

2344 - MATHEMATICS 1 credit
Limits, basic concepts of differential, calculus and applications, and basic concepts of integral calculus and applications. PREREQUISITE: 2333 or its equivalent.

2241 - MATHEMATICS 1-4 credits
Same course content as 2341, 2342, 2343 and 2344, except courses are taught on a lecture basis rather than a programmed basis.
Offered Spring Semester

2350-2365 - MATHEMATICS 1,2,3, and 4.
The sequence of four 4-credit courses in the Calculus are appropriate for students transferring to four-year colleges who intend to major in the sciences, engineering, or mathematics. Although each course carries 4 credits, it is possible in certain circumstances for a student to earn partial credit for successful completion of less than 4 credits.

2350 - MATHEMATICS 1 credit
The Cartesian plane and analytic geometry of the straight line and circle. Functions, and functional expressions. PREREQUISITES: Mathematics 2343 or its equivalent.
Offered Fall Semester

2351 - MATHEMATICS 1 credit
Limits, continuity and the derivatives of algebraic functions. Chain rule and implicit differentiation. PREREQUISITES: Mathematics (2350) or its equivalent. *Offered Fall Semester*

2352 - MATHEMATICS 1 credit
Applications of the derivative to curve sketching. Maxima/minima theory and related rates. The differential and differential approximation. PREREQUISITES: Mathematics (2351) or its equivalent. *Offered Fall Semester*

2353 - MATHEMATICS 1 credit
Indefinite and definite integration. Fundamental theorem of calculus. Introduction to separable differential equations, rectilinear motion problems, work and fluid pressure. Computations of plane areas using summation notation and the definite integral. PREREQUISITES: Mathematics 2352 or its equivalent. *Offered Fall Semester*

2354 - MATHEMATICS 1 credit
Vectors; conic sections; geometrical interpretation of limits, continuity and derivatives. PREREQUISITE: Mathematics 2353 or its equivalent. *Offered Spring Semester*

2355 - MATHEMATICS 1 credit
Differentiation and integration of trigonometric, inverse trigonometric, logarithmic, exponential, hyperbolic, and inverse hyperbolic functions. PREREQUISITE: Mathematics 2354 or its equivalent. *Offered Spring Semester*

2356 - MATHEMATICS 1 credit
Parametric equations; polar coordinates; techniques of integration: substitution, trigonometric integrals, trigonometric substitutions, integration using partial fractions, use of integral tables. PREREQUISITE: Mathematics 2355 or its equivalent. *Offered Spring Semester*

2357 - MATHEMATICS 1 credit
Applications of the integral: volumes of solids of revolutions; surfaces of revolution; centroids of plane regions, solids of revolution, areas, and surfaces; moments of inertia. PREREQUISITE: Mathematics 2356 or its equivalent.
Offered Spring Semester

2358 - MATHEMATICS 1 credit

Indeterminant forms; L ' Hospital's Rule. Elements of Infinite Series. Convergent and divergent series; Taylor's series; Algetraic operations with series; differentiation and integration of series. PREREQUISITE: Mathematics 2357 or its equivalent. *Offered Fall Semester*

2359 - MATHEMATICS 1 credit

Introduction to solid analytic geometry using vector methods. Vector and scalar products; equations of lines and planes; quadratic surfaces. PREREQUISITE: Mathematics 2358 or its equivalent. *Offered Fall Semester*

2360 - MATHEMATICS 1 credit

Partial differentiation. Implicit differentiation; chain rule and applications; directional derivatives (gradient); total differential and applications; maxima and minima; exact differentials; line integrals; work. PREREQUISITE: Mathematics 2359 or its equivalent. *Offered Fall Semester*

2361 - MATHEMATICS 1 credit

Multiple integration. Double integration; area and physical applications of double integration; evaluation of double integration by polar coordinates; triple integration; volume; physical applications of triple integration; surface area; introduction to vector calculus. PREREQUISITE: Mathematics 2360 or its equivalent. *Offered Fall Semester*

2362 - MATHEMATICS 1 credit

This module begins a study of the nomenclature and techniques necessary for solving ordinary differential equations. The standard classical procedures for solving most linear and non linear first order diffenential equations are developed. These include separation of variables, homogeneous co-efficient approach, exact differential equations, integrating factors technique, and Bernouli's Equation among others. PREREQUISITE: Mathematics 2362 or its equivalent.

Offered Spring Semester

2363 - MATHEMATICS 1 credit

A study of linear higher order ordinary differential equations is emphasized in this module. The differential operator technique is developed for the solution of homogeneous differential equations with constant co-efficients. The method of the undetermined co-efficients, D'Alemberts reduction of order technique, and the variation of Parameters method is presented for solving non-homogeneous differential equations. PREREQUISITE: Mathematics 2363 or its equivalent.

Offered Spring Semester.

2364 - MATHEMATICS 1 credit

The Lapiace transform is defined, and its technique for solving linear ordinary differential equations is developed in this module. The gamma, Pulse, and Impulse functions are presented and used as forcing functions in the Laplace Transform solution of numerous differential equations. PREREQUISITE: Mathematics 2363 or its equivalent.

Offered Spring Semester

2365 - MATHEMATICS 1 credit

An introduction to the solution of systems of linear differential equations with constant co-efficients. Matrix methods for both homogeneous and non-homogeneous systems are developed. The Laplace Transform technique is applied primarily to systems with sectionally continuous forcing functions. This module also reviews the concept of a power series and develops the power series technique for solving linear ordinary differential equations. The method of Frobenius is used for solving equations with regular singular points. Bessel functions and Bessel's differential equation, and Legendre polynomials and Legendre's differential equation are discussed. PREREQUISITE: Mathematics 2364 or its equivalent. *Offered Spring Semester*



PHYSICS

3033 - BASIC SCIENCE 1 (I.P.S.) 4 credits

Introduction to experimental chemistry, using very frequent experiments and simple arithmetic. Emphasis on development of the student's confidence, initiative and self-reliance. Topics treated are: measures; characteristic properties; separation; decomposition and synthesis; constant proportions, atoms and molecules. PREREQUISITE: None. The course serves as preparation for other college chemistry courses and is suitable for students who have taken no previous science.

Offered Fall & Spring

3036 - CIENCIA BASICA 1 (BASIC SCIENCE 1) 4 creditos

Course contents same as 3033. Introduccion a la quimica experimental, usando bien frecuentemente experimentos y aritmetica simple. Enfasis en el desarrollo de la confianza en si mismo e iniciativa del estudiante. Los topicos a tratar son: Medidas, Propiedades Caracteristicas, Separacion, Descomposicion y Sintesis, Proporciones Constantes, Atomos y Moleculas. PRE-REQUISITO: Ninguno. El curso sirve como preparacion para otros cursos de quimica de colegio, y es

adecuado para aquellos estudiantes cue no han tenido previamente ciencias. *Curso se offrece en el semestre de otono.*

3034 - BASIC SCIENCE 2 (I.P.S.) 4 credits
Introduction to experimental physics, through energy and its measurement in the form of electricity, heat, motion and radiation. Emphasis on development of the student's confidence, initiative and self-reliance. PREREQUISITE: Advised is 2303 Basic Arithmetic or 3033 Basic Science 1. However, this course serves as preparation for other college physics courses and is suitable for students who have taken no previous science. *Offered Spring Semester*

3010 - PHYSICAL SCIENCE 1 4 credits
A laboratory science course for non-science students. Introduction to the intellectual process of science as a window onto nature by means of many simple experiments and class discussions. Topics treated are the physical and chemical properties of matter and the atomic model. PREREQUISITE: Mathematics 2311 or High School Algebra 1.
Offered Fall Semester

3011 - PHYSICAL SCIENCE 2 4 credits
Continuation of 3010 Physical Science 1. Energy, and its measurement on the local and global scale, is used as a unifying topic to explore electricity, heat, motion and radiation. PREREQUISITE: 3010 Physical Science 1 or permission. *Offered Spring Semester*

3096 - INTRODUCTORY ASTRONOMY 1 4 credits
This is the first part of a two semester, transferable course. It begins with a historical overview and then concentrates on stars, stellar systems and galaxies. Labotatory.
Offered Fall Semester

3097 - INTRODUCTORY ASTRONOMY 2 4 credits
A continuation of Astronomy 1, but may be taken separately. This course deals with the formation and evolution of the solar system. Laboratory. *Offered Spring Semester*

3012 - PHYSICS 1 4 credits
A course on mechanics and heat. Very frequent experiments, and problem assignments, introduce the student to the following: systems of measurement, accelerated motion, force, kinetic and potential energy, momentum, composition and resolution of forces and statics. Also heat energy and its conservation. PREREQUISITE: Mathematics 2331 (Trigonometry). *Offered Fall and Spring*

3013 - PHYSICS 2 4 credits
A study of magnetism, electricity and light. Lectures, demonstrations, problem assignments and laboratory work are carried on in the following fields: electrostatics, magnetism, resistance of conductors, Ohm's law, thermoelectricity, electrochemistry, electromagnetic induction, radio, illumination, mirrors, lenses, optical instruments, radiant energy, spectroscopy, polarization and recent discoveries in physics. PREREQUISITE: 3012. *Offered Spring Semester*

3311,3312,3313,3314 - PROGRAMMED PHYSICS
4 cr., 1 cr. per module
To accommodate programmed instruction in Physics 1, in which students proceed at their own rate.
Offered Spring Semester

3311 - MODULE 1
An introduction to mathematics for science. Includes units conversion, significant figures, scientific notation and elementary vector problems.

3312 - MODULE 2
Elementary mechanics starting with one dimensional kinematics and ending with Newton's Laws.

3313 - MODULE 3
Three interesting topics in Physics; universal gravitation, circular motion and momentum.

3314 - MODULE 4
A discussion of various forms of energy and their relationships.

3031 - PHYSICS 11 4 credits
This course is meant to parallel UMass 141. Topics include principles of space and time, conservation laws, motion, mass, force, momentum, circular motion, gravitation, work, energy, heat. The problems and the laboratories are designed with biological applications in mind. Trigonometry and Algebra 2 required. *Offered Fall Semester*

3032 - PHYSICS 12 4 credits
This course is meant to parallel UMass 142. Topics include electrostatics, basic electronics, solid state, electromagnetism, elementary quantum theory. Includes the Bhor model, Planck's hypothesis, construction of the nucleus, and radioactivity. Mathematics to the level of algebra 2 and trigonometry. Physics 3031 is not a requirement but is highly recommended as a prerequisite. *Offered Spring Semester*

3015 - PHYSICS 21 5 credits
Elementary mechanics, statics and dynamics; conservation of energy and momentum; conservation of angular momentum, heat and simple harmonic motion. PREREQUISITE: 2353 Mathematics. *Offered Spring Semester*

3016 - PHYSICS 22 5 credits
A continuation of Physics 21 covering sound, light, electricity and magnetism; Gauss, Ampere and Faraday's Laws; electric and electromagnetic properties of materials; magnetic and electric circuits. PREREQUISITE: 3015,Mathematics 2357.
Offered Fall Semester

3017 - PHYSICS 23 5 credits
Electromagnetic waves, Maxwell's equations, introduction to relativity, atomic, nuclear, and particle physics. PREREQUISITE: 3016, Mathematics 2361.
Offered Spring Semester

3041 - INDEPENDENT STUDY - PHYSICS 1 1,2,3 or 4 cr.
Independent study or laboratory project in physics under direction of instructor. PREREQUISITE: Permission of the Department Chairman. *Offered Fall Semester*

3042 - INDEPENDENT STUDY - PHYSICS 2 1,2,3 or 4 cr.
A continuation of 3041. PREREQUISITE: 3041 and permission of the Department Chairman.
Offered Spring Semester

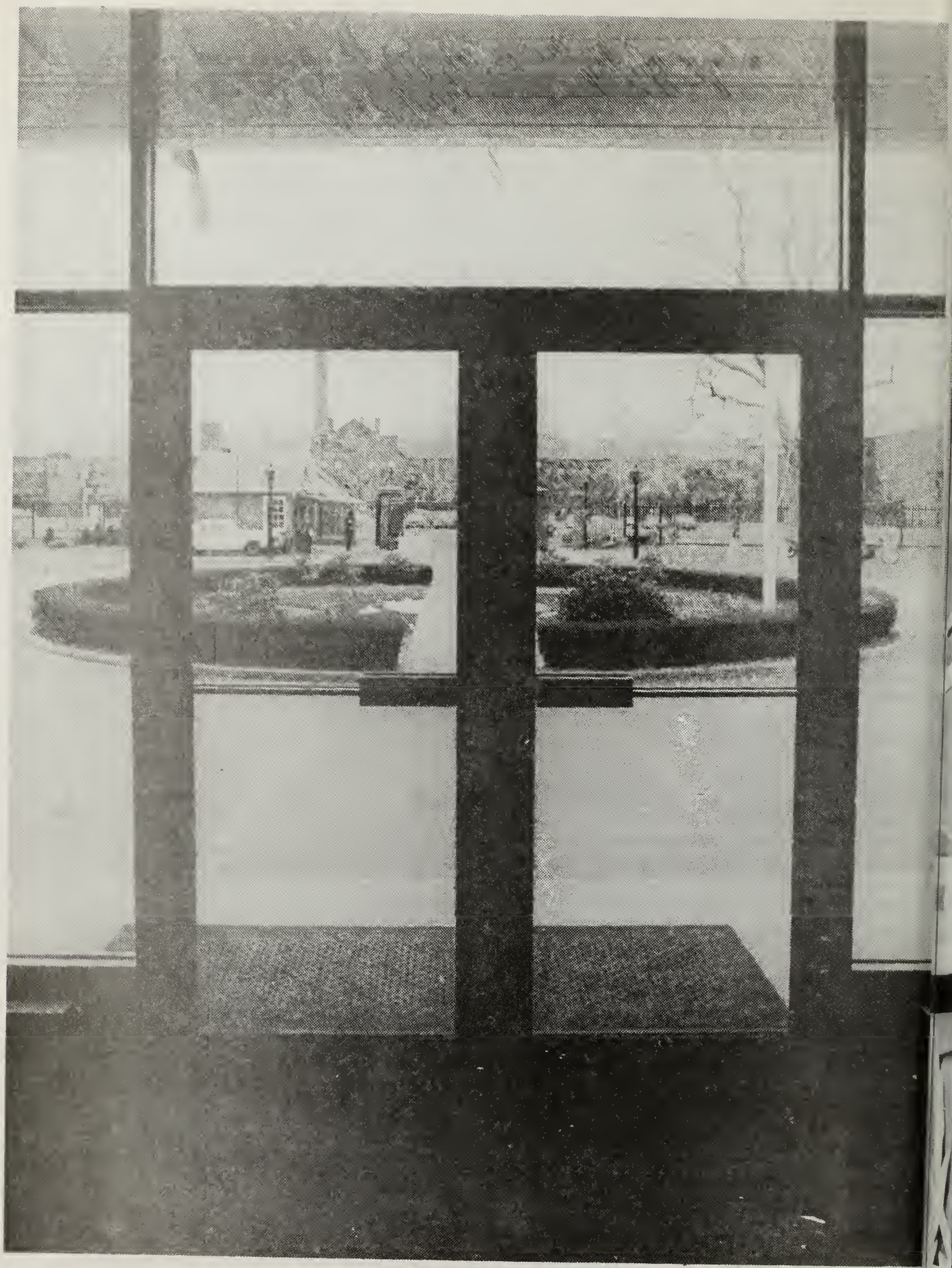
3014 - RESPIRATORY THERAPY PHYSICS 4 credits
Restricted to Department 48. Kinetic theory developed into the ideal gas laws. Application to respiratory therapy of the corrected gas laws. Colligative properties of fluids. Blood gases. Acid/Base balance, Poiseuille's Law. Bernoulli's Law. Venture. Basic electronics of respiratory therapy equipment. Electromagnetic spectrum. *Offered Spring Semester*

3083 - RADIOLOGIC PHYSICS 1 4 credits
Restricted to Departments 77, 78, 79. Topics covered are: basic mechanics, mass, force, energy, work, momentum. Electrostatics, magnetism, electromagnetism, basic electronics, solid state will be discussed with applications in radiology. Specific topics in radiology are the nature of the photon, electromagnetic spectrum, ionizing radiation, and radiation detection equipment. *Offered Fall Semester*
N.B. In addition there is a three-week (15 hour) lecture series in the June preceding this course. The course is Radiation Protection in Radiology covering radiation dose, radiation protection, inverse square law, basic radiobiology. At the terminus of the series there will be an hour exam, which mark will be included in the Fall Physics 3083/3583 mark. The course must be passed to continue in the summer clinical program.

3084 - RADIOLOGIC PHYSICS 2 4 credits
Restricted to Department 78. The topics discussed in Physics 3083 will be extended with more rigorous mathematics. Physical principles of diagnostic x-ray equipment will be discussed. PREREQUISITE: Physics 3083/3583.
Offered Spring Semester

E3090 - RADIOLOGIC PHYSICS 3 3 credits
This course is a review of the physical principles of Radiology and is a requirement for the A.S. degree in Radiologic Technology. It is restricted to those students only.





Directories

ADVISORY BOARD

SPRINGFIELD TECHNICAL COMMUNITY COLLEGE ADVISORY BOARD

JOSEPH J. COOLIGAN
Chairman
Springfield

REBECCA M. JOHNSON
Vice Chairman
Springfield

REV. STEPHEN PAPADOULIAS
Vice Chairman
Springfield

JANE E. MEMBRINO
Secretary
Chicopee

RODOLFO ALTOBELLI
Agawam

LEO E. BEAULIEU
Chicopee

REV. MILES CRAWFORD, JR.
Springfield

DR. E. DEBORAH GILMAN
Springfield

JEREMIAH P. McCARTHY
Wilbraham

CHARLES P. YERKES
Longmeadow

TERESINA B. THOMPSON
Honorary Member
Dean Emeritus

MASSACHUSETTS BOARD

MASSACHUSETTS BOARD OF REGIONAL COMMUNITY COLLEGES

CHARLES C. D. HAMILTON
Chairman of the Board

ERROL Y. JACOBSEN
Secretary

Gregory R. Anrig
John F. Bradshaw
Muriel E. Camarra
John B. Duff
Thomas A. Fulham
John T. Hickey
Elizabeth Johnson
Patrick F. Jones
David C. Knapp
Edward C. McGuire
Robert Mattingly
Kermit Morrissey
Robert O. Simha
Alan Sinclair
Fred T. Thompson

JULES O. PAGANO
President

Information as of November, 1978



ADMINISTRATIVE OFFICES

Office of the President	Robert C. Geitz, President Building 16, Second Floor Extension 3841
Academic Affairs	John H. Dunn, Dean of Faculty Building 16, Second Floor Extension 3845
Administrative Services	Edward P. Stefanik, Dean of Administration Building 16, First Floor Extension 3802
Student Services	John A. Stefferud, Dean of Student Services Building 16, First Floor Extension 3454
Continuing Education	J. Edward Smith, Dean of Continuing Education (Acting) Building 16, Third Floor Extension 3863
Admissions	James J. Dowd, Director of Admissions Building 16, Second Floor Extension 3819
Affirmative Action	Dorothy J. Pryor, Affirmative Action Officer Building 16, Second Floor Extension 3829
Bilingual Education	Jose Silva, Director of Bilingual Programs Building 27, First Floor Extension 3482
Data Processing Services	Mark F. Curto, Coordinator, D.P. Services Building 17, Third Floor Extension 3377
Personnel	Edward R. Maclosky, Director of Personnel Building 16, Second Floor Extension 3833
Registrar	Richard Kretschmar, Registrar (Acting) Building 16, Second Floor Extension 3858

ADMISSIONS REGISTRATION CENTER

Building 16, Second Floor

Extension 3220

ACADEMIC DIVISIONS

Allied Health Sciences	Helen G. Burzynski Building 20, Room 428 Extension 3509
Business Administration	Donald F. Bready Building 17, Room 217 Extension 3324
Humanities	Jewel Rentzschke Building 13, Room 101 Extension 3655
Math, Sciences and Engineering	Jack Barocas Building 17, Room 315 Extension 3322
Nursing	Mary E. O'Leary Building 20, Room 303 Extension 3505
Social Sciences	Carol A. Roberts Building 17, Room 327 Extension 3351
Technologies	John T. Donohue Building 20, Room 121 Extension 3501
Liberal Arts/General Studies	Antoinette L. Burgess General Studies Center, Building 27, Room 101E Extension 3480
Liberal Arts Transfer	Virginia B. Kerr Building 17, Room 329 Extension 3352

ACADEMIC DEPARTMENTS

Advanced Metal Machining	Otto Paradzick Building 28, Room 204 Extension 3752
Art	Edith M. Bugbee Building 28, Room 207 Extension 3753
Automotive Technology	Richard D. Cormier Building 25, Room 200 Extension 3757
Biological Sciences	James M. Curran Building 20, Room 215 Extension 3513
Bio-Medical Technology	Kenneth C. Dupont Building 20, Room 522 Extension 3508
Business Administration	John J. Godfrey Building 17, Room 209 Extension 3326
Chemistry	Kenneth W. Rillings Building 17, Room 301 Extension 3330
Civil Engineering Technology	John R. Warner Building 27, Room 109B Extension 3479
Cosmetology	Sophie L. Drost Building 20, Room 427 Extension 3514
Data Processing Technology	Alfred C. St. Onge Building 17, Room 245 Extension 3329
Dental Assisting	Carol McCarthy Building 20, Room 202 Extension 3633
Dental Hygiene	Denise Ryan Building 20, Room 240 Extension 3528
Developmental English	Kathleen A. Andrew Building 13, Room 217 Extension 3674
Early Childhood Education	Sally D. Curtis Building 6, Room 102 Extension 3771
Economics	Siegfried F. Rentzschke Building 17, Room 231 Extension 3344
Electrical Technology	John T. Donohue Building 20, Room 121 Extension 3501

Electronics Technology	Gary J. Mullett (Acting) Building 17, Room 241 Extension 3328
Emergency Medical Technician	I. Joseph Desrosiers Building 20, Room 207 Extension 3502
Engineering/Science Transfer	William R. White Building 17, Room 309 Extension 3333
English	Joseph F. Ross Building 13, Room 111 Extension 3651
Environmental Technology	William C. Gaitenby Building 13, Room 113 Extension 3657
Fire Protection and Safety Technology	Albert W. Valentine Building 20, Room 518 Extension 3527
Foreign Languages	Antoinette L. Burgess Building 27, Room 101E Extension 3480
Graphic Arts Technology	William E. Gibbs Building 14, Room 101 Extension 3766
Heating/Power/Air Conditioning Technology	Carl E. Murray Building 32, Room 103 Extension 3761
History	Richard C. Parkin Building 17, Room 219 Extension 3327
Landscape Technology	H. Alan Crowe Building 27, Room 109A Extension 3478
Law Enforcement	Bert G. Scannapieco Building 17, Room 225 Extension 3325
Machine Design Technology	Otto Paradzick Building 28, Room 204 Extension 3752
Mathematics	Robert Yawin Building 17, Room 303 Extension 3331
Medical Assisting	Mary Ellen Harbeck Building 20, Room 332 Extension 3517
Medical Laboratory Technicians	Mary C. Griffin, S.P. Building 20, Room 350 Extension 3516
Mental Health Technicians	Mary Killeen Bennett Building 20, Room 352 Extension 3520
Occupational Safety and Health Technology	Albert W. Valentine Building 20, Room 518 Extension 3527
Operating Room Technicians	Rita F. LaBrecque Building 20, Room 344 Extension 3521
Physical Therapist Assistants	Lucille B. Hood Building 20, Room 318 Extension 3518
Physics	Hilton M. Abbott Building 17, Room 305 Extension 3332
Psychology	M. Frances Juliano Building 17, Room 331 Extension 3353
Radiologic Technology	Gordon Smith Building 20, Room 333 Extension 3529
Respiratory Therapy	George Ponte Building 20, Room 422 Extension 3526
Secretarial Science	Virginia C. Weinle Building 20, Room 414 Extension 3530
Sociology and Anthropology	Mary Jane Pi-Sunyer Building 17, Room 227 Extension 3342
Telecommunications Technology	Nathan L. Rutstein Building 13, Room 323 Extension 3653

Directory Information as of November, 1978.

FACULTY AND ADMINISTRATIVE DIRECTORY

*Hilton Abbott — *Physics*
B.S., University of Vermont
M.S., Eastern Michigan University

H. Estelle Amidon — *Graphic Arts*
Forms Analyst, Cert.

*Kathleen Andrew — *Developmental English*
B.A., Trinity College
M.A., Boston College

Homer Angers — *Automotive Technology*
B.S., Westfield State College

Cheryl Baraldi — *Assistant to the President*
B.A., University of Massachusetts

Jack Barocas — *Chairman, Division of Math, Science, and Engineering Transfer*
B.S., Brooklyn College
M.S., University of Massachusetts
Ph.D., University of Massachusetts

Daniel Barry — *Landscape Technology*
B.S., University of Massachusetts
M.Ed., University of Massachusetts

Faye Marie Bartlett — *Nursing*
R.N., Mercy Hospital School of Nursing
B.S.N.Ed., University of Rochester

Allan Barton — *Electro-Mech. Tech.*
B.S., Univ. of Minnesota
M.S., Univ. of Conn.

*Mary Killeen Bennett — *Mental Health Technician*
R.N., Springfield Hospital School of Nursing
B.A., Our Lady of the Elms College
M.S., Springfield College

Gloria Bernabe — *Ethnic Heritage Program*
B.A., University of Puerto Rico
M.A., Middlebury College

Anthony Bialas — *English*
A.A., Morton Jr. College
B.A., Northern Illinois University
M.A., Northern Illinois University

Victor Bouchard — *Data Processing Technology*
B.S.M.E., Western New England College
M.B.A., Western New England College

Thomas Boyle — *History*
B.S., Holy Cross College
M.A., American International College
M.A.F.T., University of Massachusetts
Ph.D., University of Connecticut

Barry Braimes — *Comptroller*
B.S., Rider College
M.B.A., Rider College

Donald Bready — *Chairman, Div. of Business Administration*
B.B.A., University of Massachusetts
J.D., Western New England College
L.L.M., Boston University

*Edith M. Bugbee — *Art*
B.F.A., University of Massachusetts
M.A.T., University of Massachusetts

E. John Bugbee — *Chemistry*
B.A., American International College
M.A., American International College

Robert Bujak — *Automotive*
A.S., Springfield Technical Community College
B.S., Central Connecticut State College

*Antoinette Burgess — *Coordinator, Liberal Arts/General Studies; Foreign Languages*
B.S., Fordham University
M.A., University of Massachusetts

Elizabeth Burke — *Physical Therapist Assistant*
M.S., University of Massachusetts, R.P.T.

Teresa Burr — *Associate Dean of Continuing Education, Community Services*
B.S., Springfield College
M.Ed., Springfield College

Helen Burzynski — *Chairwoman, Division Allied Health Sciences*
R.N., Mercy Hospital School of Nursing
B.S., Boston College
M.A., American International College

Gail Carberry — *Grants Accounting*
B.S., State College at Worcester

Walter Carey III — *Anatomy & Physiology*
B.S., University of Massachusetts
M.S., University of Massachusetts
Ph.D., University of Massachusetts

Alexander Carter — *Coordinator, Director of Afro-Am Center*
B.S., American International College

Eileen Cassidy — *Secretarial Sciences*
B.S., American International College
M.A., American International College

Alison Cochrane — *Radiation Therapy Technology*
A.R.R.T., Yale-New Haven

Leonard Collamore — *History*
B.S.Ed., Westfield State College
M.Ed., Springfield College

Jose Colon — *Computer Maintenance Tech.*
B.S.E.E., University of Puerto Rico
M.S.E.E., Rensselaer Polytechnic Inst.

John Connell — *Physics*
B.S., Massachusetts Institute of Technology
Ph.D., University of Washington

Daniel Courtney — *Electronics*
A.S., Springfield Technical Comm. College

Patricia Coppola — *Secretarial Science*
A.A.S., State University of New York at Cobleskill
B.S., State University of New York at Albany
M.S., State University of New York at Albany

*Richard Cormier — *Automotive Technology*
A.S., Franklin Technical Institute
B.S., Westfield State College

Nancy Craig — *Graphic Arts*
Cert., International Business Machines Corp.
A.S., Springfield Technical Community College

Yolande Croteau — *Business Administration*
B.S., American International College
M.A., American International College

*H. Alan Crowe — *Landscape Technology*
B.S., University of Massachusetts
M.Ed., Westfield State College

*James Curran — *Biological Sciences*
B.A., American International College
M.Ed., University of Vermont

*Sally Curtis — *Early Childhood Education*
A.B., Union College
M.Ed., University of Hartford

Mark Curto — *Coordinator, Data Processing Services*
A.S., Springfield Technical Community College

Ellen Cuttita — *Dental Assisting/Hygiene*
A.A., Elizabeth Seaton
B.S., Columbia University
M.S., Columbia University

Jane Davis — *English*
B.A., American International College
A.M., Mt Holyoke College

Mary Delaney — *Nursing*
B.S.N., Boston College
M.Ed., Westfield State College

Lourdes Delson — *Medical Assistant*
A.S., Springfield Technical Community College
B.A., University of Massachusetts
M.A.T., University of Massachusetts

Albert Desautels — *Chief Power Plant Engineer*
License - Comm. of Mass. - Elevator Const., Repairmen & Maint.
License - Comm. of Mass. - Second Class

*I. Joseph Desrosiers — *Emergency Medical Technician*
Cert., American Red Cross

Vincent DiMonaco — *Business Administration*
A.S., Springfield Technical Community College
B.S.B.A., Western New England College
M.B.A., University of Massachusetts

Robert Donoghue — *Business Administration*
B.S., Western New England College
M.B.A., Western New England College

*John Donohue — *Chairman, Division of Technologies; Electrical Technology*
B.B.A., Northeastern University

Mary Donovan — *Sociology*
B.A., Ohio University
M.A., Ohio University

William Donovan — *Business*
B.A., Lafayette College
M.B.A., Univ. of Mass.

John D'Orazio — *Assistant Director of Veterans' Affairs*
A.A., Springfield Technical Community College
B.A., Westfield State College

James Dowd — *Assistant to the President/ Director of Admissions*
B.S.E., Westfield State College
M.Ed., Westfield State College

Francis Driscoll — *Data Processing*
B.S., University of Massachusetts
M.S., University of Massachusetts
M.B.A., Western New England College

*Sophie Drost — *Cosmetology*
Cert., American Hair Design Institute
Licenced Cosmetology Instructor

Gladys Duffy — *Secretarial Sciences*
B.S., Simmons College
M.A.T., American International College
Cert., Westfield State College

John H. Dunn — *Dean of Faculty*
B.A., American International College
M.A., University of Massachusetts

*Kenneth Dupont — *Bio-Medical Technology*
B.A., American International College
M.S., University of Massachusetts

Richard Duzniewski — *Graphic Arts*
A.S., Springfield Technical Community College
B.S., Rochester Institute of Technology
A.A.S., Rochester Institute of Technology

Florence Eaton — *Mental Health Technician*
B.S., Univ. of New Hampshire
Cert., Inst. of Living, Yale Univ.

Tamson Ely — *Assistant Librarian*
B.A., Goucher College
M.L.S., Simmons College

Gerald Etheridge — *Math*
B.S., Fitchburgh State College

Margaret Fay — *Nursing*
R.N., Providence Hospital School of Nursing
B.S.N., Boston College School of Nursing

Jeremiah Finn — *Law Enforcement*
B.A., St. Michael's College
L.L.B., Western New England College

Donald Fitzgerald — *English*
B.A., Oberlin College
M.Ed., University of Vermont
Ed.D., Columbia University

William Fitzgerald — *Electrical Technology*
B.S., Ed., Westfield State College
M.S.T., American International College

James Fitzgibbons, Jr. — *Psychology*
B.S., Holy Cross College
M.Ed., Worcester State College
C.A.G.S., University of Connecticut

Dorathea Foote — *(Leave of Absence 1978-79) Dental Hygiene*
R.D.H., Forsyth School of Dental Hygiene
A.S., Northeastern University
B.S., University of North Carolina
M.Ed., University of Massachusetts

Mary Forni — *Financial Aid Counselor*
B.A., American International College

John J. Fortsch — *Data Processing Technology*
B.S., Fitchburg State College
M.S., Springfield College

Ernest Fox — *Chemistry*
B.S., Univ. of Massachusetts
M.A., Univ. of Massachusetts

Joel Friedman — *Director of Financial Aid*
B.A., Brooklyn College
M.A., Brooklyn College

Leon Friedman — *Economics*
B.A., University of Hawaii
M.A., George Washington University

Frank Furgal — *Machine Design Technology*
B.S., Westfield State College
C.M.E., Society of Manufacturing Engineers

*William Gaitenby — *Environmental Technology*
B.S.Ch.E., University of Massachusetts

John Gately II — *English*
B.A., University of Massachusetts
M.A.T., University of Massachusetts

Robert Geitz — *President*
B.S., California Institute of Technology
Ph.D., University of Pittsburgh

Louis Gentile — *Psychology*
B.S., American International College
M.S., Springfield College
Ph.D., University of Maryland

*William Gibbs — *Graphic Arts Technology*
B.A., American International College
M.B.A., Western New England College

*John Godfrey — *Business Administration*
B.S., American International College
M.B.A., Western New England College

Francis Gray — *English*
A.A., Holyoke Community College
B.A., North Adams State College
M.Ed., Our Lady of the Elms College
C.A.G.S., University of Massachusetts

Marie Greco — *English*
B.A., Queens College
M.S., Queens College

Mitchell Gregorski — *Business*
B.B.A., American International College
M.B.A., American International College

*Sr. Mary Cecilius Griffin — *Medical Laboratory Technician*
B.S., St. Joseph College
M.T., (A.S.C.P.)

Walter Gunning — *Mathematic*
B.S., Boston College
M.Ed., Westfield State College

Ellen Haggerty — *Secretarial Scienc*
B.S., State Teachers College
M.A., American International College

Ronald Hanc — *Nuclear Medicine Technolog*
M.S., University of Massachusetts

Michael Hanna — *Director of Computer Cente*
A.B., Harvard University — *(Leave of Absence 1978-79*
Cert. IBM Computer Techniques
Cert. IBM Systems Analysis

*Mary Ellen Harbeck — *Medical Assistan*
R.N., Nazareth College
B.S'., Nazareth College
M.Ed., American International College

Richard Harkins — *Division of Technologie*
B.S., California State College

Robert Harriman — *Mathematic*
B.A., Bowdoin College
M.Ed., American International College

William Herd — *Busine*
A.A., Holyoke Community College
B.S., American International College
M.B.A., Western New England College

Sharon Hilton — *Dental Hygier*
B.S., Old Dominion University

Thomas Holland — *Foreign Languag*
B.S.S., Fairfield University
M.A., University of So. California
Ph.D., University of So. California

*Lucille Hood — *Physical Therapist Assistant*
B.S., Boston University, R.P.T.
M.A., Stanford University

Jeffrey Howe — *Respiratory Therapy*
A.S., Holyoke Community College
A.S., Springfield Technical Community College

Bruce Howes — *Sociology*
B.S., Springfield College
M.Ed., Westfield State College

Jean Jimenez — *Special Student Serv. Instr.*
B.A., Univ. of Mass.

Juan Jimenez — *Math & Biological Sciences*
B.S., Univ. of Massachusetts

Rena Johnson — *Nursing*
B.S., University of Massachusetts

*M. Frances Juliano — *Psychology*
B.A., Emmanuel College
M.N., Yale University School of Nursing
M.Ed., Springfield College

Margaret D. Kao — *Math*
A.A., Cape Cod
B.S., Southeastern Mass. Univ.
M.B.A., Univ. of Mass.

Arvind Karnik — *Electronics*
B.S.E.E., University of Bombay
M.S.E.E., Rutgers, State Univ. of New Jersey

Priscilla Kastel — *Operating Room Technician*
R.N., Springfield Hospital School of Nursing

Richard Kasunick — *Coordinator of Video Services*
B.A., Worcester State College

Virginia Kerr — *Psychology; Coord.; Liberal Arts Transfer Prog.*
B.A., University of Maryland
M.Ed., University of Vermont

Sandra King — *Respiratory Therapy*
Cert., Springfield Technical Institute
A.A., Springfield Technical Community College

Theodore King — *Medical Director, Respiratory Therapy*
B.S., Capital University
M.D., Cincinnati College

Edwina Kirby — *Secretarial Sciences*
A.S., Becker Jr. College
B.S., American International College
M.Ed., University of Massachusetts

Richard Kretschmar — *Acting Registrar*
Cert., Springfield Technical Community College
B.S., University of Massachusetts

*Rita LaBrecque — *Operating Room Technician*
R.N., Mercy Hospital School of Nursing
B.S.N., Boston College
M.Ed., Westfield State College
C.A.G.S., American International College

Stephen Lak — *Machine Design*
B.S.M.E., Western New England College
M.S.M.E., Worcester Polytechnic Institute

Bheki Langa — *English*
B.A., Univ. of Conn.
M.A., Univ. of Conn.
M.F.A., Univ. of Mass.

James Langone — *Graphic Arts*
B.S., Rochester Institute of Technology
M.S., Rochester Institute of Technology

Sister Mary Elizabeth Leahy — *Nursing*
R.N., St Vincent Hospital School of Nursing
B.S.N., Boston College School of Nursing
M.Nsg., Boston College School of Nursing

Anne Lemieux — *Music*
B.M., Immaculate College
M.Ed., Bridgewater State College

Raymond Lemieux — *Economics*
B.S., Bridgewater State College
M.Ed., Bridgewater State College
M.A., University of Illinois

George Leslie — *Biology*
B.A., Holy Cross College
M.S., University of Detroit

Raymond Lindsay — *Heating/Power/Air Conditioning Tech.*
B.S., Westfield State College

Francine Luizzi — *Dental Hygiene*
A.S., Forsyth School for Dental Hygiene
B.S., Columbia Univ.

Kenneth Lukis — *Chemistry*
B.A., Saint Anselm's College
M.S., Holy Cross College
Ph.D., University of Pittsburgh

Edward R. Maclosky — *Director of Personnel*
B.A., University of Conneticut
M.S., University of Conneticut

Irving Magoon — *Mathematics*
B.S., Mississippi State College

William Manzi — *Assistant Dean of Students*
B.A., American International College
M.A., Westfield State College

Dominick Maratea — *Fire Protect. & Safety*
A.S., Springfield Technical Community College

Mary Marrion — *English*
B.A., College of Our Lady of the Elms
M.A., Southern Illinois University

Peter Martinello — *Automotive Technology*
A.S., Springfield Technical Community College
B.S., University of Massachusetts

Walter Mayfield — *English*
B.S., University of Alabama
M.A., Rensselaer Polytechnic Institute

Felicita Mazzuchelli — *Admin. Asst. for Continuing Ed.*
Fisher Business College

Nancy McAuliffe — *Cataloguer*
B.A., College of St. Catherine
A.M.L.S., University of Michigan

Beverly McCarthy — *Secretarial Sciences*
A.S., Berkshire Community College
B.S., Salem State College
M.A.T., American International College

*Carol McCarthy — *Dental Assistant*
A.S., Springfield Technical Community College
B.S., University of Massachusetts

Margaret McCarthy — *Physics*
A.B., Wheaton College
M.S., University of Pittsburgh
M.S., University of Massachusetts

Ruth McClain — *Director of Testing and Career Planning Center*
B.A., Glassboro State College
M.Ed., Boston University
Ed.D., University of Massachusetts

James McDonald — *Mathematics*
B.S., University of Massachusetts
M.A., American International College

Clare McDonnell — *Developmental English*
B.A., Our Lady of the Elms
M.A., University of Wisconsin

Thomas McFarlin — *Math/Business*
B.S., University of Pennsylvania
M.B.A., Western New England College

Robert McGuiness — *Heating/Power/Air Conditioning Tech.*
A.A.S., Holyoke Community College
B.S., Westfield State College
M.Ed., Westfield State College

Jorge Medina — *Ethnic Heritage Program*
B.A., Univ. of Mass.

James Meehan — *Biology*
B.S., University of Massachusetts
M.A.T., University of Massachusetts

Mary Anne Merrill — *Radiologic Technology*
Cert., Albany Medical School, R.T.

Cherry Michelman — *Sociology*
B.A., Smith College
M.A., Boston University
Ph.D., University of Mass.

Joan Millett — *Nursing*
R.N., St. Joseph College
B.S., St. Joseph College
M.A., Columbia University

Judith Mish — *(Leave of Absence Fall 1978) Develop. English*
B.S., University of Minnesota
M.A., University of Minnesota

Peter Montessi — *Machine Design*
B.S., Westfield State College

Edward Moriarty — *Sociology*
A.B., St. Anselm's College
M.Ed., Our Lady of the Elms College

Patricia Moriarty — *Nursing*
B.S.N., Boston College

*Gary Mullett — *Electronic Technology*
B.S.E.E., University of Massachusetts
M.S.E.E., University of Massachusetts

William Mullett — *Physics*
B.A., American International College
M.Ed., University of Massachusetts

Mary Murphy — *Developmental English*
B.A., Our Lady of the Elms College
M.A., American International College

*Carl Murray — *Heating/Power/Air Conditioning Tech.*
Licensed Engineer (First Class)
B.S., Westfield State College

Eileen Neville — *Nursing*
R.N., Providence Hospital School of Nursing
B.S., University of Massachusetts
M.S., University of Massachusetts

Roberta Nichols — *Biology*
B.S., University of Connecticut
M.A.T., University of Hartford
Ph.D., Univ. of Massachusetts

Elsa Niedbala — *Chemistry*
B.A., American International College
M.S.T., American International College

Mary O'Connor — *Clinical Inst. - Nursing*
A.D., STCC
B.S.N., Fitchburgh State College

Marjorie O'Donnel — *Secretarial Sciences*
B.S., American International College
M.A.T., American International College

Mary O'Leary *Chairwoman, Division of Nursing*
R.N., Providence Hospital School of Nursing
B.S., Boston College
M.S., Boston College
J.D., Western New England College

Alfred Ottani *Law Enforcement*
B.A., American International College

*Otto Paradzick Jr. *Advanced Metal Maching Technology &*
Registered Professional Engineer *Machine Design Tech.*
B.S.M.E., Western New England College
M.B.A., Western New England College

Robert Parenteau Sr. *Mathematics*
B.B.A., Western New England College
M.Ed., University of Massachusetts

*Richard Parkin *History*
B.A., American International College
M.A., Bowling Green State University
C.A.G.S., Carnegie-Mellon University

Gail Pederzoli *English*
B.A., Elmira College
M.A., University of Wisconsin
M.Ed., Springfield College

Robert Peterson *Civil Engineering Tech.*
B.A., Rensselaer Polytechnic Institute

*Mary Jane Pi-Sunyer *Sociology*
A.B., Radcliffe College
A.M., Radcliffe College
M.A., University of Massachusetts
Ph.D., University of Massachusetts

*George Ponte *Respiratory Therapy*
A.S., Springfield Technical Community College

Marilyn Pooler *Medical Assistants*
R.N., Baystate Med. Center School of Nursing

Kathryn Pritchard *Cosmetology*
B.S., Fitchburg State Teachers College

Dorothy Pryor *English; Affirmative Action Officer*
B.A., Fisk University
M.A., University of Chicago

Richard Pushkin *Radiologic Technology*
A.S., Springfield Technical Community College, R.T.

Nancy Raporport *Biology*
A.B., University of Rochester
M.S., University of Pennsylvania
M.S., University of Massachusetts

Sharon Raverta *Biology*
B.A., American International College
M.S.T., American International College

Sister Elizabeth Reardon *Nursing*
R.N., Rutland Hospital
B.S., Boston College
M.S.N., Catholic University of America

Katharine Reichert *Librarian*
B.A., Drew University
M.S., Florida State University

Jewel Rentzschke *Chairwoman, Division of Humanities*
B.A., American International College
A.M., Mount Holyoke College

*Siegfried Rentzschke *Economics*
B.A., American International College
M.A., Southern Illinois

Ann Rice *English*
B.A., Bucknell Univ.
M.A., Boston Univ.

Dennison Rice *English*
B.A., Calvin Coolidge College of Liberal Arts
M.A., Emerson College

Joan Richers *Nurse, Student Health Services*
R.N., Beverly Hospital School of Nursing
Nurse Practitioner, University of Mass.

*Kenneth Rillings *Chemistry*
A.A., Long Island Agriculture & Technical Institute
B.A., Hofstra University
M.S., University of Massachusetts
Ph. D., University of Massachusetts

Michael Ritzen *Developmental Englsh*
B.A., University of Minnesota
M.A., University of Minnesota

Carol Roberts *Chairwoman, Division of Social Sciences*
B.A., Tufts University
M.Ed., University of Massachusetts
C.A.G.S., University of Massachusetts

Lee Robinson *Respiratory Therapy*
A.S., Triton Junior College

Robert Rodgers *Business Administration*
B.A., University of Massachusetts
J.D., Northeastern University School of Law

*Joseph Ross *English*
B.A., Emerson College
M.Ed., Westfield State College

*Nathan Rutstein *Telecommunications Technology*
B.A., Depauw University

*Denise Ryan *Dental Hygiene*
R.D.H., Forsyth School of Dental Hygiene
B.S., Boston University
M.S., Columbia University

*Alfred St. Onge — *Data Processing Technology*
B.S., American International College
M.Ed., Westfield State College

Henry Salz — *Physics*
B.S., University of Mexico
M.S., Massachusetts Institute of Technology
Ph.D., Massachusetts Institute of Technology

David Sarrette — *Director of Veterans' Affairs*
A.A., Springfield Technical Community College

Sherry A. Sausville — *Humanities*
B.A., American International College
M.Ed., American International College

*Bert Scannapieco — *Law Enforcement*
B.A., American International College
J.D., Western New England College

Andrew Scibelli — *Biological Sciences*
B.A., St. Anselm's College
M.Ed., Boston State College

Carmelo Scuderi — *Advanced Metal Machining*
B.S.M.E., University of Massachusetts

Josephine Sears — *Nursing*
B.S.N., Boston State College

Patricia Shea — *Nursing*
R.N., Misericordia Hospital
B.S., University of Dayton
M.S., University of Massachusetts

Stanley Shore — *Chemistry*
B.S., Tufts University
Ph.D., University of Massachusetts

Christine Sickle — *Early Childhood Education*
B.S., Allegheny College
M.Ed., Univ. of Hartford

Jose Silva — *Director, Bilingual Programs*
B.A., Univ. of Puerto Rico

Paul Simon — *Director of Student Activities*
B.A., American University
M.Ed., American University

Lawrence Slezak — *Art*
B.S., State University of New York at Buffalo
M.F.A., University of Massachusetts

Kirk Smallman — *Telecommunications Technology*
A.A., Pasadena City College
B.A., Antioch College
M.A., University of Southern California

*Gordon Smith — *Radiologic Technology*
R.T., Manchester College of Technology (U.K.)

J. Edward Smith — *Acting Dean of Continuing Education*
B.A., State University College, Broskport N.Y.
M.S., State University College, Broskport N.Y.

Daniel Smola — *Environmental Technology*
B.S.M.E., University of Massachusetts
M.S.Ev.E., University of Massachusetts

Stanley Speer — *Social Sciences*
B.A., San Jose State College
M.A., San Jose State College
Ph.D., University of Connecticut

Robert Staron — *Physics*
B.S., Georgetown Univ.

Edward P. Stefanik — *Dean of Administration*
B.S., U.S. Military Academy, West Point, N.Y.
M.S., Texas A & M University
M.B.A., Boston University

John Stefferud — *Dean of Student Services*
B.S., Springfield College
M.Ed., Springfield College
Ed.D., University of Arkansas

Rose Sullivan — *Admin. Asst. to the President*
O'Connell's Business College

Audrey Sumner — *Biological Sciences*
B.A., Vassar College
M.S., University of Pennsylvania

Marilyn Sutin — *Financial Aid Counselor*
B.A., Richmond College

Carol Szlachetka — *Dental Assistant*
A.S., Springfield Technical Community College, R.D.H.
B.S., Westfield State College

Beatrice Szlajen — *Bilingual Counselor*
A.A., Havana Business College

Lynn Tallman — *Radiologic Technology*
R.T., Pittsfield General Hospital

Patricia Taylor — *Clinical Ins. Nursing*
A.D., STCC
B.S.N., Fitchburgh State College

Jennett Teece — *Biological Sciences*
A.B., Mt. Holyoke College
A.M., Oberlin College

Julian Tenczar — *Admin. Asst., Technologies*
A.S., Springfield Technical Comm. College

Thomas Tetlow — *Data Processing Technology*
B.S., American International College
M.B.A., Western New England College

Carolyn Tetrault — *English*
B.A., Emmanuel College
M.A., Boston College

Ernest Therrien — *Business Administration*
B.A., University of Maine
M.A., Fordham University

Essie Thomas — *Cosmetology*
Certificate, Lincoln High Vocational

Sandra Thompson — *Clinical Inst., Nursing*
A.D., Springfield Technical Comm. College

John Tullock Jr. — *Landscape Technology*
B.S., University of Massachusetts
M.L.A., University of Michigan

William Tuthill — *Civil Engineering Technology*
B.S.C.E., Union College
M.B.A., University of Massachusetts

*Albert Valentine — *Fire Protection & Safety Tech.*
A.S., Springfield Technical Community College
Cert., Quinsigamond Community College
B.S., University of Massachusetts

Mitchell Walkowicz — *Electronic Technology*
B.S.Ed., Westfield State College

Oliver Wallock — *Engineering/Science Transfer*
B.S., University of Connecticut
M.S.Ch.E., University of Connecticut

*John Warner — *Civil Engineering Technology*
B.S.C.E., University of Massachusetts
M.B.A., Western New England College

*Virginia Weinle — *Secretarial Sciences*
B.A., University of Michigan
Cert., Katharine Gibbs School
M.A., American International College

Stephen Weisner — *Social Sciences*
A.A., Rockland Community College
B.A., Richmond College
M.A.T., University of Massachusetts

Carol A. Werman — *Chemistry*
B.A., Hofstra Univ.
M.S., U. of Mass.

* William White — *Engineering/Science Transfer*
B.S.Ch.E., University of Connecticut
M.S.Ch.E., Rensselaer Polytechnic Institute

Jeannette Williams — *Medical Laboratory Technician*
B.S., University of Massachusetts
M.T., (A.S.C.P.)

Vincent Yacovone — *Dir. of Instructional Media Production Center*
A.A., Holyoke Community College
B.A., University of Massachusetts

*Robert Yawin — *Mathematics*
B.S., Central Connecticut State College
M.A., Bowling Green State University
Ph. D., University of Connecticut

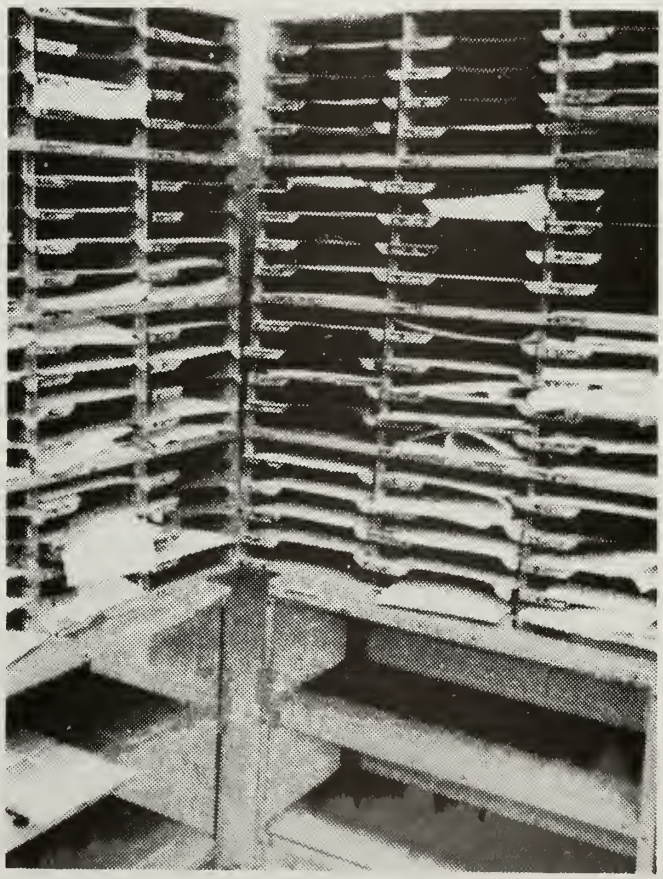
Juris Zagarins — *Engineering/Science Transfer*
B.S., Tufts University

Raphael Zoeller — *Counselor*
B.S., US Naval Academy
M.A., Jackson College
Ed.M., Tufts University

Charles Zumwalt — *Placement Director*
B.S., Oregon State University

*Department Chairperson

Directory Information as of November, 1978



CLINICAL FACULTY - HEALTH EDUCATION

Dr. Jacqueline Baez — *Obstetrics & Gynecology*
Associate Clinical Professor — *Private Practice*

Ms. Kim Bagley, RPT — *Student Supervisor*
Clinical Instructor — *Leonard-Morse Hospital*

Dr. Edward Bailey — *Pediatrician*
Asso. Clinical Professor — *Wesson Mem. Div., Bay St. Med. Ctr.*

Mrs. Joyce Baron, R.N. — *Supervisor of O.R.*
Clinical Instructor — *Bay State Medical Center*

Mr. Richard A. Beach — *Residence Coordinator*
Clinical Instructor — *Our Lady of Providence Child. Ctr.*

Dr. Kevin Beck — *Asst. Med. Dir.,Respiratory Dept.*
Asso. Clinical Professor — *Wesson Men. Div., Bay State Med. Ctr.*

Mr. John Bellows — *Training Specialist*
Clinical Instructor — *Work Opportunity Center*

Mrs. Karen Bitzer, R.R.T. — *Clinical Director, Respiratory Dept.*
Clinical Instructor — *Wesson Women's Div., Bay State Med. Ctr.*

Dr. Arnold Blake — *Pediatrics*
Associate Clinical Professor — *Private Practice*

Dr. William F. Boucher — *Internal Medicine*
Associate Clinical Professor — *Private Practice*

Ms. Kathy Boyle, RPT — *Chief Physical Therapist*
Clinical Instructor — *University Hospital/Boston Univ. Med. Ctr.*

Mr. Robert Brennan, M.T. (ASCP) — *Laboratory Administrator*
Clinical Instructor — *Cooley Dickinson Hospital*

Dr. Raymond Brien — *Regional Services Administrator*
Clinical Instructor — *Dept. of Mental Health Region 1*

Mr. Richard Brown — *Principal*
Clinical Instructor — *Children's Study Home*

Mr. Richard Buzzee, C.R.T.T. — *Tech. Director, Resp. Therapy*
Clinical Instructor — *Noble Hospital*

Mr. Raymond Capers, M.T. (ASCP) — *Chief Technologist*
Clinical Instructor — *Noble Hospital*

Ms. Marguerite Carson — *Administrative Director*
Clinical Instructor — *Westfield Area Mental Health Center*

Dr. Leroy Charles — *Obstetrics & Gynecology*
Associate Clinical Professor — *Private Practice*

Mr. Joseph Cieple — *Technologist - Laboratory*
Clinical Instructor — *Spfld. Div., Bay State Med. Ctr.*

Mr. George Clarke — *Supervisor for Special Ed.*
Clinical Instructor — *Springfield Public Schools*

Judy Clark — *Educational Director*
Clinical Instructor — *Chicopee Head-Start*

Dr. Lawrence Coleman — *Health Services*
Associate Clinical Professor — *Bay State Medical Ctr.*

Miss Jean Connors, R.N. — *Head Nurse*
Clinical Instructor — *Wesson Men. Div., Bay State Med. Ctr.*

Mrs. Rita Conroy, R.N. — *Supervisor of Obstetrics*
Clinical Instructor — *Providence Hospital*

Mr. Charles Cosgrove, R.R.T. — *Tech. Director, Respiratory Dept,*
Clinical Instructor — *Holyoke Hospital*

Mr. Christine Crosby, MLT — *Laboratory*
Clinical Instructor — *Springfield Medical Associates*

Mrs. Jean Cushing, R.N. — *Instructor*
Clinical Instructor — *Bay State Medical Center*

Ms. Barbara Dolan, RPT — *Director, Physical Therapy Services*
Clinical Instructor — *University Health Services, U/Mass.*

Ms. Cathy Douglas, R.N. — *Registered Nurse*
Clinical Instructor — *Visiting Nurse Association*

Mr. Paul Downey, MT(ASCP) — *Lab Supervisor*
Clinical Instructor — *Mary Lane Hospital, Ware*

Mr. Robert Dranka — *Executive Director*
Clinical Instructor — *Crossroads*

Ms. Jane Drennan — *Supervisor, Out-Patient Dept.*
Clinical Instructor — *Springfield Div., Bay State Med. Ctr.*

Mrs. Julie Ely, A.R.R.T. — *Clinical Dir., Respiratory Therapy*
Clinical Instructor — *Springfield Div., Bay State Med. Ctr.*

Mr. John Enko, RPT — *Chief Physical Therapist*
Clinical Instructor — *Wesson Mem. Div., Bay State Med. Ctr.*

Mrs. Florence Ethier, R.N. — *Supervisor, O.R.*
Clinical Instructor — *Ludlow Hospital*

Ms. Sylvia Evasius, R.N. — *Nurse Coordinator*
Clinical Instructor — *Brightwood Riverview Health Center*

Ms. Maureen Findlater, R.D.H. — *Dental Hygienist*
Clinical Instructor — *Chicopee School System*

Dr. Bruce Fisher — *Infectious Diseases*
Associate Clinical Professor — *Private Practice*

Ms. Cheryl Fisher, R.R.T. — *Clinical Supervisor, Respiratory Dept.*
Clinical Instructor — *Mercy Hospital*

Mrs. Constance Foley, R.N. — *Supervisor, O.R.*
Clinical Instructor — *Holyoke Hospital*

Mr. Al Freeman, R.R.T. — *Tech. Director, Respiratory Therapy*
Clinical Instructor — *Mercy Hospital*

Ms. Doris Gallo, R.N. — *Health Services*
Clinical Supervisor — *Wesson Div., Bay State Medical Ctr.*

Dr. Peter Giraud — *Medical Doctor*
Associate Clinical Prof. — *Private Practice*

Dr. Stanley Glasser — *Medical Advisor, Respiratory*
Associate Clinical Prof. — *Mercy Hospital*

Ms. Bonnie Gould — *Supervisor, EKG Dept.*
Clinical Instructor — *Wesson Mem. Div., Bay State Med. Ctr.*

Dr. Robert A. Grugan — *Chief Radiologist*
Clinical Professor — *Springfield Div., Bay State Med. Ctr.*

Mrs. Debbie Hadley, R.P.T. — Chief Physical Therapist
Clinical Instructor — *Western Mass. Hospital*

Mr. Michael Hebert — *Clinical Instructor, Respiratory Therapy*
Clinical Instructor — *Wesson Mem. Div., Bay State Med. Ctr.*

Ms. Constance Henning, R.N. — *Supervisor, Holding Unit*
Clinical Instructor — *Spfld. Div., Bay State Medical Ctr.*

Ms. Jean Hickey, R.N. — *O.R., Instructor*
Clinical Instructor — *Providence Hospital*

Ms. Diane Hockman, R.N. — *Supervisor, O.R.*
Clinical Instructor — *Noble Hospital*

Dr. Marvin Hoovis — *Oncology*
Asso. Clinical Professor — *Wesson Mem. Div., Bay State Med. Ctr.*

Sr. Ann Horgan, R.N. — *Nursing Administrative*
Clinical Supervisor — *Supervisor, Mercy*

Mr. John Hyland — *Supervisor, EKG Dept.*
Clinical Instructor — *Springfield Div., Bay State Med. Ctr.*

Ms. Christine Jablonsky — *Business Dept.*
Clinical Instructor — *Springfield Medical Association*

Mr. John Jackson — *Director, Spfld. Service Office*
Clinical Instructor — *Dept. of Public Welfare Region 1*

Dr. Irving Jacobs — *Superintendent*
Associate Clinical Prof. — *Northampton State Hospital*

Ms. Audrey Jemiolo, R.N. — *Head Nurse, Out Patient Med. Serv.*
Clinical Instructor — *Wesson Mem. Div., Bay State Med. Ctr.*

Sr. Mary Joan of Arc — *Chief Physical Therapist*
Clinical Instructor — *Farren Memorial Hospital*

Ms. Cindy Jones, RPT — *Chief Physical Therapist*
Clinical Instructor — *Soldier's Home, Holyoke*

Mr. William E. Jones — *Superintendent*
Clinical Instructor — *Belchertown State School*

Ms. Wendy Keyser — *Coordinator, Student Volunteers*
Clinical Instructor — *Northampton State Hospital*

Ms. Carol Kinsley — *Coordinator*
Clinical Instructor — *School Volunteers for Spriingfield*

Dr. John Landis — *Medical Director, Respiratory*
Associate Clinical Professor — *Spfld. Div., Bay State Med. Ctr.*

Ms. Patsy LeFleur, R.D.H. — *Dental Hygienist*
Clinical Instructor — *Veterans' Hospital*

Mr. James Lewis — *Asst. Tech. Director, Respiratory Therapy*
Clinical Instructor — *Providence Hospital*

Mrs. Shirley Lewis — *Holyoke Services Office*
Clinical Instructor — *Dept. of Public Welfare, Region 1*

Ms. June Lucivero, RPT — *Director, Physical Therapy*
Clinical Instructor — *St. Vincent's Hospital*

Mr. Joseph Mack, RPT — *Chief Physical Therapist*
Clinical Instructor — *Mercy Hospital/Berkshire Rehab. Ctr.*

Mr. Robert Marsh, M.T. — *Laboratory Administrator*
Clinical Instructor — *North Adams Regional Hospital*

Mr. James Martin — *Coordinator, Educ. & Training*
Clinical Instructor — *Veterans Administration Hospital*

Mr. John Matthews — *Assistant Director*
Clinical Instructor — *Goodwill Industries, Inc.*

Mr. Paul Matthews, A.R.R.T. — *Tech. Director, Resp. Therapy*
Clinical Instructor — *Providence Hospital*

Mrs. Eleanor McQueeney, RPT — *Chief Physical Therapist*
Clinical Instructor — *Lakeville Hospital*

Ms. Dolores Mega, R.D.H. — *Dental Hygienist*
Clinical Instructor — *Holyoke School System*

Ms. Ruth Mercer — *Executive Director*
Clinical Instructor — *Chicopee Nursing Home*

Ms. Marie Moulier, R.N. — *Assistant Unit Director*
Clinical Instructor — *Northampton State Hospital, Unit 2*

Mrs. Joan Ogrodnik — *Student Coordinator*
Clinical Instructor — *Berkshire Rehabilitation Center*

Mr. J. Pais — *Coordinator*
Clinical Instructor — *Hampden County Manpower Consortium*

Mr. John Palen — *Social Worker*
Clinical Instructor — *Spfld. Child Guidance Clinic*

Mr. Edward Palmer, RPT — *Chief Physical Therapist*
Clinical Instructor — *Franklin County Public Hospital*

Dr. Won C. Park — *Chief Radiation Therapist*
Associate Clinical Professor — *Bay State Medical Center*

Ms. Margo Partridge — *Coordinator*
Clinical Instructor — *Goodwill Industries, Inc.*

Mr. David Pennaman, R.R.T. — *Clinical Super., Resp. Dept.*
Clinical Instructor — *Spfld. Div., Bay State Medical Ctr.*

Ms. Jean Peteet, RPT — *Chief Physical Therapist*
Clinical Instructor — *Mass. Rehabilitation Hospital*

Mr. Thomas Philpott — *Principal*
Clinical Instructor — *Our Lady of Providence Children's Ctr.*

Mr. Joseph Piepul — *Supervisor, Out-Patient Lab.*
Clinical Instructor — *Springfield Div., Bay State Med. Ctr.*

Mr. Steven Pirola — *Clinical Instructor, Respiratory Dept.*
Clinical Instructor — *Noble Hospital*

Mr. George Poulin, M.T. — *Laboratory Administrator*
Clinical Instructor — *Harrington Memorial Hospital*

Mr. Denis Pronowitz, RPT — *Chief Physical Therapist*
Clinical Instructor — *Providence Hospital*

Dr. Kristen Raman — *Med. Director, Respiratory Dept.*
Asso. Clinical Prof. — *Wesson Memorial Div., Bay State Med. Ctr.*

Dr. Gary Rappaport — *Dentist*
Clinical Instructor — *Western Mass. Hospital*

Ms. Alice Rivest, R.D.H. — *Dental Hygienist*
Clinical Instructor — *Chicopee School System*

Ms. Genevieve Roos, R.N. — *Supervisor, Clinic*
Clinical Instructor — *Mercy Hospital*

Dr. Ronald Rosen — *Superintendent*
Clinical Instructor — *Monson State Hospital*

Ms. Kim Ryan, RPT — *Chief Physical Therapist*
Clinical Instructor — *Mayflower House Nursing & Child Care Ctr.*

Ms. Marie Sadak, R.N. — *Supervisor, Ambulatory Care*
Clinical Instructor — *Bay State Medical Center*

Mrs. Elaine Scagel, RPT — *Chief Therapist*
Clinical Instructor — *Cooley Dickinson Hospital*

Ms. Mary Schnepp, R.D.H. — *Dental Hygienist*
Clinical Instructor — *Monson State Hospital*

Mr. Rick Serafino, R.R.T. — *Tech. Director, Respiratory Dept.*
Clinical Instructor — *Wesson Memorial Div., Bay State Med. Ctr.*

Ms. Margaret Shanley, R.N. — *Supervisor, O.R.*
Clinical Instructor — *Mercy Hospital*

Dr. William I. Sivitz — *Internal Medicine*
Associate Clinical Professor — *Private Practice*

Mrs. Flora Spencer, R.N. — *Supervisor O.R.*
Clinical Instructor — *Franklin County Public Hospital*

Dr. Lura Stagg — *Pediatrician*
Associate Clinical Professor — *Private Practice*

Ms. Irene Stanek, R.N. — *Health Services*
Clinical Supervisor — *Bay State Medical Center*

Dr. Robert Stein — *Radiation Therapist*
Asso. Clinical Prof. — *Wesson Mem. Div., Bay State Med. Ctr.*

Ms. Nancy Stover, D.H. — *Dental Hygienist*
Clinical Instructor — *Belchertown State Hospital*

Dr. Richard Sturm — *Director, Psychological Services*
Clinical Instructor — *Veterans' Administration Hospital*

Dr. John Sullivan — *Chairman, Department of Pathology*
Associate Clinical Prof. — *Bay State Medical Center*

Mr. Edward Swanson, RPT — *Chief Physical Therapist*
Clinical Instructor — *Noble Hospital*

Mrs. Carla Taylor, R.N. — *O.R. Supervisor*
Clinical Instructor — *Wing Memorial Hospital*

Mr. Philip Taylor — *Laboratory Administrator*
Clinical Instructor — *Providence Hospital*

Dr. Daniel Teres — *Director, Intensive Care Unit*
Associate Clinical Prof. — *Springfield Div., Bay State Med. Ctr.*

Mrs. Janet Troutman — *Program Coordinator*
Clinical Instructor — *W.W. Johnson Life Center*

Gail Trusiack — *Coordinator*
Clinical Instructor — *Goodwill Industries*

Mr. Jaime Ulloa — *Director*
Clinical Instructor — *Multi-Social Services Center*

Ms. Mary Lou Vinesco — *Head Nurse*
Clinical Instructor — *Mercy Hospital*

Mrs. Cheryl Vitali, ARRT — *Asst. Tech. Director, Resp. Dept.*
Clinical Instructor — *Holyoke Hospital*

Mrs. Maureen Weems, RPT — *Chief Physical Therapist*
Clinical Instructor — *New Britian Memorial Hospital*

Ms. Ada Weiner — *Supervisor of Elementary Guidance*
Clinical Instructor — *Springfield Public Schools*

Ms. Elizabeth Wilk, M.T. (ASCP) — *Education Coordinator*
Clinical Instructor — *Wesson Memorial Div., Bay State Med. Ctr.*

Mr. Paul Zapun — *Coordinator*
Clinical Instructor — *Jose Gandara Life Center*

Ms. Susan Zimmerman, RPT — *Student Supervisor*
Clinical Instructor — *Central Conn. Easter Seal Rehab. Ctr.*

Dr. Said Zu'bi — *Chief of Nuclear Medicine*
Associate Clinical Prof. — *Spfld. Div., Bay State Medical Ctr.*

Directory Information as of November, 1978

SPRINGFIELD TECHNICAL COMMUNITY COLLEGE AREA MANPOWER ADVISORY COUNCIL

HERBERT P. ALMGREN, PRESIDENT
Shawmut First Bank & Trust Company
127 State Street
Springfield, Massachusetts 01103

FEDERICO BRID, DIRECTOR
Spanish & American Union
67 Jefferson Avenue
Springfield, Massachusetts 01107

FRANK CATALDO
27 Cherry Hill
Holyoke, Massachusetts 01040

JOSEPH J. COOLIGAN, PRESIDENT
Coastal Machinery, Inc.
95 State Street
Springfield, Massachusetts 01103

PAUL E. DEEGAN, MANAGER,
GROUP WORK PROCESSING
Massachusetts Mutual Life Insurance Co.
1295 State Street
Springfield, Massachusetts

JOSEPH J. DELISO, SR., PRESIDENT
HBA Cast Products Company
262 Liberty Street
Springfield, Massachusetts

JOHN T. DONOHUE, CHAIRMAN,
DIVISION OF TECHNOLOGIES
Springfield Technical Comm. College
One Armory Square
Springfield, Massachusetts 01105

JAMES J. DOWD, DIRECTOR OF ADMISSIONS
Springfield Technical Community College
One Armory Square
Springfield, Massachusetts 01105

JOHN H. DUNN, DEAN OF FACULTY
Springfield Technical Community College
One Armory Square
Springfield, Massachusetts 01105

JOHN M. FYLNN, PRESIDENT
Hampden Engineering Corporation
99 Shaker Road
East Longmeadow, Massachusetts 01026

HENRY J. FULLER, VICE PRESIDENT
OF ENGINEERING
American Bosch
3664 Main Street
Springfield, Massachusetts

NINA GALVIN
Spanish & American Union
67 Jefferson Avenue
Springfield, Massachusetts 01107

WARREN A. GARDNER, PRESIDENT
Solar Metal Treating Company
33 Hendee Street
Springfield, Massachusetts

ROBERT C. GEITZ, PRESIDENT
Springfield Technical Community College
One Armory Square
Springfield, Massachusetts 01105

JOSEPH B. HANLON, VICE PRESIDENT
Camp Dresser & McKee, Inc.
One Center Plaza
Boston, Massachusetts 02108

MRS. MARIA IANZITO, PRESIDENT
Springfield Area League of Women Voters
57 Glenbrook Lane
Longmeadow, Massachusetts 01106

GEORGE KENNA, CHIEF ENGINEER
Van Norman Machine Company
3640 Main Street
Springfield, Massachusetts 01107

MOHAMMED A. KHAN, SUPERINTENDENT
Springfield Armory National Historic Site
Armory Square
Springfield, Massachusetts 01105

LAWRENCE LEONARD, PRESIDENT
Mercury Plastics Corporation
672 Fuller Road
Chicopee Falls, Massachusetts

CHARLES MANTHOS, PRESIDENT
Springfield Indian Motorcycle Museum
& Hall of Fame
33 Hendee Street
Springfield, Massachusetts 01104

JEREMIAH P. McCARTHY
Central Labor Union
266 Rosewall Avenue
Springfield, Massachusetts

BOYD McCRANEY, MANUFACTURING
TRAINING MANAGER
Digital Equipment Corporation
1 Federal Street
Springfield, Massachusetts 01105

JOHN W. McNAIR, DIRECTOR,
EMPLOYEE RELATIONS
Baystate Medical Center
759 Chestnut Street
Springfield, Massachusetts 01107

SANDY MERRITT, EMPLOYMENT REP.
Digital Equipment Corporation
1111 Southampton Road
Westfield, Massachusetts

RICHARD MUHLBERGER, DIRECTOR
Museum of Fine Arts
49 Chestnut Street
Springfield, Massachusetts

DONALD P. PACZKOWSKI,
DIRECTOR OF PERSONNEL
Mass. Mutual Life Ins. Co.
1295 State Street
Springfield, Massachusetts

REV. STEPHEN PAPADOULIAS
Pastor, St. George Greek Orthodox Church
2309 Main Street
Springfield, Massachusetts

HENRY B. PAYNE, PROJECT COORDINATOR
Emergency Job Program
1600 East Columbus Avenue
Springfield, Massachusetts 01103

JAMES R. PETERS, SR., PRESIDENT
Universal Plastics Corporation
7 Springfield Street
Chicopee, Massachusetts

CHARLES V. RYAN, ATTORNEY
1500 Main Street
Springfield, Massachusetts

NIKOLAI V. SAVENKO,
AREA MANPOWER ADMINISTRATOR
Hampden County Manpower Consortium
6 Frost Street
Springfield, Massachusetts 01105

JAMES C. SCOTT, CORPORATE
PERSONNEL DIRECTOR
Albert Steiger, Inc.
1477 Main Street
Springfield, Massachusetts

STANLEY R. SHAW, JR.,
OFFICE MANAGER
Milton Bradley Company
443 Shaker Road
East Longmeadow, Massachusetts 01028

JAMES SHEA, PERSONNEL DIRECTOR
Mercury Plastics Corporation
672 Fuller Road
Chicopee, Massachusetts

WILLIAM A. SITNIK, SYSTEMS SUPERINTENDENT
Monsanto Company
730 Worcester Street
Indian Orchard, Massachusetts 01151

HARRY G. STECHER, GENERAL MANAGER
Sears Roebuck and Company
Eastfield Mall
1585 Boston Road
Springfield, Massachusetts

DANIEL F. SULLIVAN, DIRECTOR OF PERSONNEL
Choice-Vend
P.O. Box 250
Windsor Locks, Connecticut 06096

HENRY M. THOMAS, III,
EXECUTIVE DIRECTOR
Urban League of Springfield, Inc.
756 State Street
Springfield, Massachusetts 01109

ELMER H. THOMPSON
128 Hilltop Road
Longmeadow, Massachusetts 01106

HENRY TURBAK, PRESIDENT
Peerless Tool & Machine Company
160 Spring Street
Enfield, Connecticut 06082

ROBERT F. TUVESON, EXECUTIVE VICE PRESIDENT
Baystate Medical Center
759 Chestnut Street
Springfield, Massachusetts 01107

NORMAN J. VAN TASSEL, VICE PRESIDENT
Valley Bank & Trust Compsny
Valley Bank Tower
1500 Main Street
Springfield, Massachusetts

JOSEPH T. WRIGHT, SENIOR VICE PRESIDENT
Food Marts, Inc.
227 South Street
Holyoke, Massachusetts 01040

CHARLES P. YERKES, PRESIDENT
A.B. Dick/Scott
P.O. Box 200
South Hadley, Massachusetts 01075

Advanced Metal Machining

Jim Davis President	American Saw Mfg. Co. East Longmeadow, Ma.
Henry Fuller Vice President Engineering	American Bosch Springfield. MA
Raymond Stelzer Mfg. Manager	Crane Co. Indian Orchard, MA
Henry Turbah President	Peerless Tool & Machine Co. Enfield, CT

Automotive Technology

Charles Allen Technician	Balise Chevrolet Co. Springfield, MA
Joseph Beaulieu President	Beaulieu Chevrolet Co. Springfield, MA
Frank Ferrara President	Ferrara Spring and Parts Co. Springfield,MA
Thomas Fitzgerald Technician	Hamden Dodge Co Springfield, MA
Gillis Thibault Technician	Beaulieu Chevrolet Co. Springfield, MA

Bio-Medical Instrumentation

Walter Brown Field Engineer	Hewlett-Packard Paramus, NJ
Richard Newton Field Service Rep.	Electro-Nucleonics Fairfield, NJ
Gene Pederzani Service Manager	Instrumentation Labs Lexington, MA
Robert Pisycane Chief Engineer	Providence Hospital Holyoke, MA

Business Administration

Bert Dolan Realtor	Bert Dolan, Realtor Springfield, MA
Arthur H. Edwards CPA	Arthur Edwards & Co. CPA Firm East Longmeadow, MA
Paul Greeley Executive Vice-President	Springfield Chamber of Commerce Springfield, MA
Vincent Martin Vice-President	Milton Bradley Co. East Longmeadow, MA
William Rappaport Supervisor of Pupil Services	School Department-City of Springfield Springfield, MA
Norman Vantassel Vice President	Valley Bank Tower Springfield, MA

Civil Engineering Tech.

Ronald Gnatek Design Engineer	Landgraf Associates Springfield, MA
Frederick Hallahan President	Landgraf Associates Springfield, MA
Richard J. Raimondi Assist. Designer	John L. Tracy, Designer East Longmeadow, MA
David Spencer Partner	The Architectural Partnership Springfield, MA

Cosmetology

Zomena Barrett	Springfield, MA
Robert Hewins	Springfield, MA
Louise Marr	Springfield, MA
Rita Nabhan	West Springfield, MA
Richard O'Zemkoo	
Mary Tillery	Springfield, MA
Bernadette Watson	Springfield, MA

Dental Assisting and Dental Hygiene

Philip Cohen D M D	Springfield, MA
Andrea Dorey CDA	Belchertown, MA
Alfred Ferris DMD	Springfield, MA
Alex Fox DMD	Springfield, MA
Michael George DMD	East Longmeadow, MA
Anthony Giannetti DMD	Springfield, MA
Richard Goodman DMD	Springfield, MA
Karla Lis CDA	Three Rivers, MA
Majorie Mahoney RDH	Westfield, MA
Stephanie McGrath RDH	Wilbraham, MA
Paul McKenna DMD	Springfield, MA
Kathy Paxton RDH	Springfield, MA
Donna Pulaski Student, Dental Assisting	Westfield, MA
Martha Roe Student Representative	Holyoke, MA
Paul Thomas DMD	Chicopee, MA

Leon Weiss
DMD — Springfield, MA

Susan White
RDH — Longmeadow, MA

Data Processing

George Aivalis — American Saw Co.
Manager — East Longmeadow, MA

Ernest Blanchard — Chicopee Falls, MA

Leonard Brodeur — City Hall
Manager — Springfield, MA

Fred Oldenburg — Breck Co.
West Springfield, MA

Early Childhood Education

Jean Bates — Springfield School Department
Coord. Title 1 Preschool — Springfield, MA

James Bell — Childrens Study Home
Executive Director — Springfield, MA

Carla Cruciger — Office For Children
Early Childhood Specialist — Springfield, MA

Frederick Driftmier
Community Representative — Springfield, MA

Alice Merriam
Early Childhood Consultant

Teresina B. Thompson
Dean Emeritus — Longmeadow, MA

Economics

Robert Cignoli — Commerce High School
Springfield, MA

Dr. John Darrow — Westfield State College
Economics Professor — Westfield, MA

William Frain — Kidder, Peabody & Co., Inc.
Springfield, MA

Beatrice Szlajen — STCC
Springfield, MA

Electrical Technology

John M. Flynn — Hamden Engr. Corp.
Sales Manager — East Longmeadow, MA

Ronald Grady — U.S. Postal Bulk Mail Ctr.
Technician — Springfield, MA

Ernest Hesse
Consultant — Wilbraham, MA

William Sitnik — Monsanto
Superintendent of Systems — Indian Orchard, MA

Electronics Technology

Dennis Dunbar — WGBY
Chief Engineer — Springfield, MA

James Hawkes — Hamilton-Standard
Technician — Chicopee, MA

Dennis Leiner — Galico Electro-Optics
Optical Physics — Sturbridge, MA

Boyd McCraney — Digital Equipment Corp.
Director of In-House Education — Springfield, MA

Neil NiColl — IBM
Field Manager — Springfield, MA

John Rioni — IBM
Service Representative — Springfield, MA

Donald F. Towsley — University of Massachusetts
Assistant Professor — Amherst, MA

Emergency Medical Technicians

Esper J. Adak — Springfield, MA

Alfred J. Berte — Civil Defense Headquarters
Civil Defense Director — Springfield, MA

A.C. Buchanan — Dept. of Public Health
Emergency Medical Tech. — Boston, MA

Helen G. Burzynski — STCC
Chairwoman, Division of Allied Health — Springfield, MA

Sante Caldarola — Ludlow Hospital
Doctor — Ludlow, MA

Peter Chalke — Holyoke Hospital
Rep. for West. Mass. Health plan. Council — Holyoke, MA

James Controvich — City Hall
City Planner — Springfield, MA

Joe Desrosiers
EMT, Reg. Coord. of EMT — Ludlow, MA

Enzo V. DiGiacommo — Mercy Hospital
Doctor — Springfield, MA

John Doss — American Red Cross
Representative — Springfield, MA

Sherman E. Fein
Attorney — Springfield, MA

Dist. Fire Chief Edward Franz — Springfield Fire Department
Super. of EMT Firefighters — Springfield, MA

Eaton Freeman — Cooley Dickinson Hospital
Doctor — Northampton, MA

Vivian F. Gaudette, R.N. — Belchertown State School
Training Coord. Mental Health Dept. — Belchertown, MA

Judith A. Moore — Paramedic Ambulance
Supervisor — West Springfield, MA

Robert O'Malley, Doctor — Holyoke Hospital, Holyoke, MA

David Panaia — Gold Cross Medical Services, Inc., Springfield, MA

Andrew Piwcio, Emergency Medical Tech. — Volunteer Ambulance Co., Monson, MA

George Ponte, RRT — STCC, Springfield, MA

Dolores A. Roy, R.N., Director of Nursing — Ludlow Hospital, Ludlow, MA

Charles Smith, Emergency Medical Tech. — Private Ambulance Co., Palmer, MA

Richard Soutiere, President — Forest Park Ambulance Co., Springfield, MA

Dr. Paul Stagg, Asst. Dir. of Ambulatory Serv. — Baystate Med. Ctr., Wes. Hosp., Springfield, MA

Fred Stebbins, EMT, Dispatcher — Municipal Fire Dept., Springfield, MA

Armand Tancrati — Springfield, MA

Alfredo Vivenzio, City Law Department — City Hall, Springfield, MA

Engr. & Science Transfer

Robert Heisler, Student — Civil Engr. Dept., UMASS, Amherst, MA

Kimball Howes, Engr. Super. — Monsanto Co., Indian Orchard, MA

Dr. Charles Hutchinson, Prof., Electrical & Computer Engr. — UMASS, Amherst, MA

Edward J. Polchopek, Vice President — Orwatt Construction Co., Chicopee Falls, MA

Dr. Leroy Stutzman, Prof. of Chem. Engineering — University of Connecticut, Storrs, CT

Environmental Technology

William Doubleday, Regional Engineer WPC — UMASS, Amherst, MA

Dr. E.E. Lindsey, Professor Env. Eng. — UMASS, Amherst, MA

John McGarry, Dir. of Envir. Control — Crane Co., Dalton, MA

Robert Rea, Vice President, Engineering — The Stevens Paper Mills Inc., Westfield, MA

Fire Science

Alfred J. Berte, Civil Defense Director — Civil Defense Headquarters, Springfield, MA

Chief Raymond Boudet, Chairman — Springfield Fire Dept., Springfield, MA

John Doherty, Chief — Amherst Fire Department, Amherst, MA

John T. Donohue, Chairman, Division of Technologies — STCC, Springfield, MA

Homer Dubois, Chief — Ludlow Fire Department, Ludlow, MA

Dominic Maratea, Captain — Springfield Fire Dept., Springfield, MA

James O'Brian, Chief — Longmeadow Fire Department, Longmeadow, MA

Esper J. Sadak — Springfield, MA

Rinaldo Santamaria, Deputy Chief — Springfield Fire Dept., Springfield, MA

Harry Schneider, Chief — Agawam Fire Department, Agawam, MA

Armand Tancrati — Springfield, MA

Alfredo Vivenzio, City Law Department — City Hall, Springfield, MA

Graphic Arts Department

Walter B. Dulak — Springfield, MA

Paul A. Hurley, Plant Manager — Aetna Life Insurance Co., West Hartford, CT

Harry L. Rosen, President — Pynchon Press Inc., Springfield, MA

Elizabeth Roy, Production Coordinator — Traveler's Life Insurance Co., Hartford, CT

Joseph P. Venti, President — General Offset Printing Co., Inc., Springfield, MA

A. Joseph Viger, Manager — Carter Rice Storrs & Bement, Springfield, MA

Heat/Power Air Cond.

William Axtman, Acting Exec. Dir. — Educ. Comm. Members, Arlington, Virginia

Wayne A. Delembo, MGR/Technical Training — Babcock & Wilcox Co/Bailey Meter Co, Wickliffe, Ohio

J.D. Sedgwick, Director of Training — Honeywell, Inc., Minneapolis, Minnesota

J.A. Wagner, Area Sales Manager — Electronics Corp. of America, Cambridge, MA

J.C. Woodward, Nat'l. Service Mgr. — Diamond Power Specialty Corp., Lancaster, Ohio

History

John R. Fallon — American International College
Director of Admissions — Springfield, MA

Roderick B. O'Connor — Springfield, MA

William R. Young — Classical High School
Chairperson, Dept. of History — Springfield, MA

Landscape Technology

Paul Ahlberg — Hillcrest Park Cemetary
Asst. Grounds Supt. — Springfield, MA

William Bennett — Hampden County Improvement League
State Extension Spec. — West Springfield, MA

Charles Godin — Adams Nursery
President — Westfield, MA

Gordon King — UMASS
Professor — Amherst, MA

George Moore — Mass. Mutual Life Ins. Co.
Grounds Maintenance Supervisor — Springfield, MA

Law Enforcement

Joseph Budd
Captain — Springfield, MA

Paul Fenton — Springfield Police Department
Chief — Springfield, MA

William Flanagan
Attorney — Springfield, MA

Daniel Shea — Police Department
Deputy Chief — Springfield, MA

Abraham Smith — Probate Court
Judge — Springfield, MA

Alfred St. Onge — STCC
Professor — Springfield, MA

Machine Design Technology

James Crowley — United Engineers Inc.
Field Service Engr. — Springfield, MA

Edward Gaudreau — Production Tool & Die Co.
President — Springfield, MA

Damien McBride — Rexnord, Inc.
Senior Draftsman — Springfield, MA

Richard Zacharhow — United Engineers Inc.
Supervisor — Springfield, MA

Medical Assisting

Lilian Alvaro
Medical Assistant — Springfield, MA

J. Dinnie
Coord. Nursery Staff Dev. — East Longmeadow, MA

Bruce Fisher
Doctor — Springfield, MA

Ruth Gaudette — Dr. B. A. Krpsky
Medical Assistant — Springfield, MA

Dr. Marvin Hoovis — Wesson Memorial Hospital
Ancology Department — Springfield, MA

John Hyland — Baystate Medical Center
EKG Department — Springfield, MA

Michele Maharne — STCC
Graduate — Springfield, MA

Roberta McQuinlan — Holyoke Ear, Nose, & Throat Assoc.
Medical Assistant — Holyoke, MA

Vivian Purdy — Hampden District Med. Society
Executive Secretary — Springfield, MA

Dr. Lura Stagg — Longmeadow, MA

Teresina Thompson — Longmeadow, MA
Dean Emeritus

Medical Laboratory Technician

Robert Brennan — Cooley-Dickinson Hospital
M.T. (ASCP) — Northampton, MA

Raymond Capers — Noble Hospital
M.T. (ASCP) Lab Supervisor — Westfield, MA

Dr. Joel Cohen — Springfield College
Chairman Biology Dept. — Springfield, MA

Elizabeth Gregoire
Senior Student Member — Auburn, MA

Robert Marsh — North Adams Regional Hosptial
M.T. Laboratory Manager — North Adams, MA

Dr. J. Rex O'Connor — Baystate Med. Ctr. Wesson Unit
Pathologist, Med. Dir. of MLT Program — Springfield,MA

Michael O'Neill — Baystate Med. Ctr. Spfld. Unit
M.T. (ASCP) Education Coord. — Springfield, MA

George Poulin — Harrington Memorial Hospital
Laboratory Manager — Southbridge, MA

Judith Rowe — Providence Hospital
MLT (ASCP) — Holyoke, MA

Dr. John P. Sullivan — Baystate Med. Ctr., Spfld. Unit
Pathologist in Chief — Springfield, MA

Evelyne Syrenne — Microbiology Lab., Noble Hospital
M.T. (ASCP) — Westfield, MA

Elmer Thompson — Longmeadow, MA

Laurea Whiton
Senior Student Member — Windsor Locks, CT

Elizabeth Wilk — Baystate Med. Ctr., Wesson Unit
M.T. (ASCP) — Springfield, MA

Mental Health

Dr. J.C. Ayers, M.D., Ph.D. — Commissioner of Public Health, Springfield, MA

James Bell, A.C.S.W. Exec. Director — Children Study Home, Springfield, MA

Raymond Brien, Regional Services Admin. — Northampton State Hosp., Northampton, MA

James Duffy, PhD. Area Director — Department of Mental Health, Springfield, MA

Grace Minkler, Assist. Regtional Director — Department Public Welfare, Springfield, MA

Robert Van Wart, Executive Director — Comm. Council of Greater Spfld., Springfield, MA

Nuclear Medicine

Dr. Suresh Brahmauar, Medical Physicist — Baystate Medical Center, Springfield, MA

Dr. Robert Dann, Chief of Nuclear Medicine — Mercy Hospital, Springfield,MA

Dr. Robert A. Grugan, Chairman, Dept. of Radiology — Baystate Medical Center, Springfield, MA

Ronald Hanc, Tech. Dir. of Imaging Section — Baystate Med. Ctr., Wesson Mem. Div., Springfield, MA

George Lis, Area Super.,Dept. of Nuclear Med. — Spfld. Hosp./Wesson Women's Unit, Springfield, MA

Michael Young, Admin., Dept. of Radiology — Baystate Medical Center, Springfield, MA

Dr. Said Zu'bi, Chief, Dept. of Nuclear Med. — Baystate Medical Center, Springfield, MA

Nursing

Mrs. Robert Atkinson — Longmeadow, MA

Lourdes Delson, Instructor — STCC, Springfield, MA

Mary Ann Gioscia, R.N. — STCC, Springfield, MA

Donald H. Hutton, Director — Baystate Med. Ctr./Wesson Mem. Unit, Springfield, MA

Anne B. Mahoney, R.N. — Holyoke, MA

Jeanne S. Murphy, Asst. to the Exec-Vice Pres. — Baystate Medical Center, Springfield, MA

Rev. Sr. Catherine Ormond, S.S.J., Guidance Counselor — Cathedral High School, Springfield, MA

Mary Lou Saba, R.N., Dir. of Nursing — Mercy Hospital, Springfield, MA

Teresina B. Thompson, Dean Emeritus — STCC, Springfield, MA

Etta Williams, R.N. — Springfield, MA

Operating Room Technician

Joyce Baron, O.R. Supervisor — Baystate Med. Ctr., Spfld. Hosp. Unit, Springfield, MA

Jean Connors, O.R. Head Nurse — Baystate Med. Ctr., Wesson Mem. Hosp., Springfield, MA

Constance Foley, R.N., O.R. Supervisor — Holyoke Hospital, Holyoke, MA

Jean Hickey, R.N., O.R. Clinical Instructor — Providence Hospital, Holyoke, MA

Robert LaMarche, MD, Orthopedic Surgeon — Springfield, MA

Carmella Sarno, CORT, Clinical Instructor — Mercy Hospital, Springfield, MA

Margaret Shanley, RN, O.R. Supervisor — Mercy Hospital, Springfield, MA

Alyce C. Shirly, CORT, O.R. Technician — Baystate Med. Ctr., Spfld. Hosp. Unit., Springfield, MA

Physical Therapist Asst.

John Enko, RPT, Chief Physical Therapist — Baystate Med. Ctr./Wesson Hosp. Div., Springfield, MA

Dr. Edwin Lytle, Psychiatrist — Soldier's Home, Holyoke, MA

Joseph Mack, RPT, Chief Physical Therapist — Mercy Hospital, Springfield, MA

Joan Ogrodnick, RPT, Student Supervisor — Mercy Hosp., Springfield, MA

Susan O'Hearn, Student P.T.A. — STCC, Springfield,MA

Joanne O.Neil, RPTA — Monson State Hosp., P.T. Dept., Monson, MA

Psychology

Carole Applebaum, Psych. Major — A.I.C., Springfield, MA

Francis Di Santis, Director-Guidance — Holyoke Public Schools, Holyoke, MA

Mildred A. Russell — Springfield, MA

Dr. Lorne Smith, Physician — Holyoke Hospital, Holyoke, MA

Radiation Therapy

Dr. Suresh Brahmavar, Medical Physicist — Baystate Medical Center, Springfield, MA

Alison Cochrane — Spfld. Hosp., Wesson Women's Unit
Area Supervisor — Springfield, MA

Angela De Felice — Baystate Med. Ctr/Wesson Mem. Unit
Dept. of Radiation Therapy — Springfield, MA

Dr. Robert A. Grugan — Baystate Medical Center
Chairman, Dept. of Radiology — Springfield, MA

Anne Martz — Baystate Medical Center
Tech. Dir. Diag. Radio. — Springfield, MA

M. Merrill — STCC
Clin. Super. Dept. of Radiology — Springfield, MA

Dr. Won C. Park — Baystate Medical Center
Chief of Radiation Therapy — Springfield, MA

Dr. Robert Steim — Baystate Medical Center
Dept. of Radiation Therapy — Springfield, MA

Dr. I. Syed — Baystate Med. Ctr./Wesson Mem. Unit
Medical Physicist — Springfield, MA

Michael Young — Baystate Medical Center
Admin., Dept of Radiology — Springfield, MA

Respiratory Therapy Department

Joseph Desrosiers — STCC
Director E.M.T. Program — Springfield, MA

Julie Ely, R.R.T. — Baystate Medical Center
Clinical Director — Springfield, MA

Allan Freeman, R.R.T. — Mercy Hospital
Technical Director — Springfield, MA

Stanley Glasser, M.D. — Mercy Hospital
Medical Advisor — Springfield, MA

Paul Matthews, R.R.T. — Providence Hospital
Technical Director — Holyoke, MA

Richard Serafino, R.R.T. — Baystate Medical Center
Technical Director — Springfield, MA

Robert Turner — Western Mass. Lung Assoc.
Director — Springfield, MA

Joseph Wilczek — Mercy Hospital
Assistant Administrator — Springfield, MA

Secretarial Sciences

Shirley S. Carpenter — Mass. Mutual Life Ins. Co.
Personnel Assistant — Springfield, MA

Hazel Kline — Armco Steel Corporation
CPS — Palmer, MA

Maureen Morgan — Legal Secretaries Assn.
Director — Springfield, MA

Paul Philbin — Philbin Stenographic Services
Springfield, MA

Sociology and Anthropology

George Ashley — Holyoke Community College
Professor — Holyoke, MA

Alfred Clarke — Western New England College
Professor — Springfield, MA

Milton Jones — STCC
Student — Springfield, MA

Ms. Sandy Miliefsky — STCC
STudent — Springfield, MA

Telecommunications

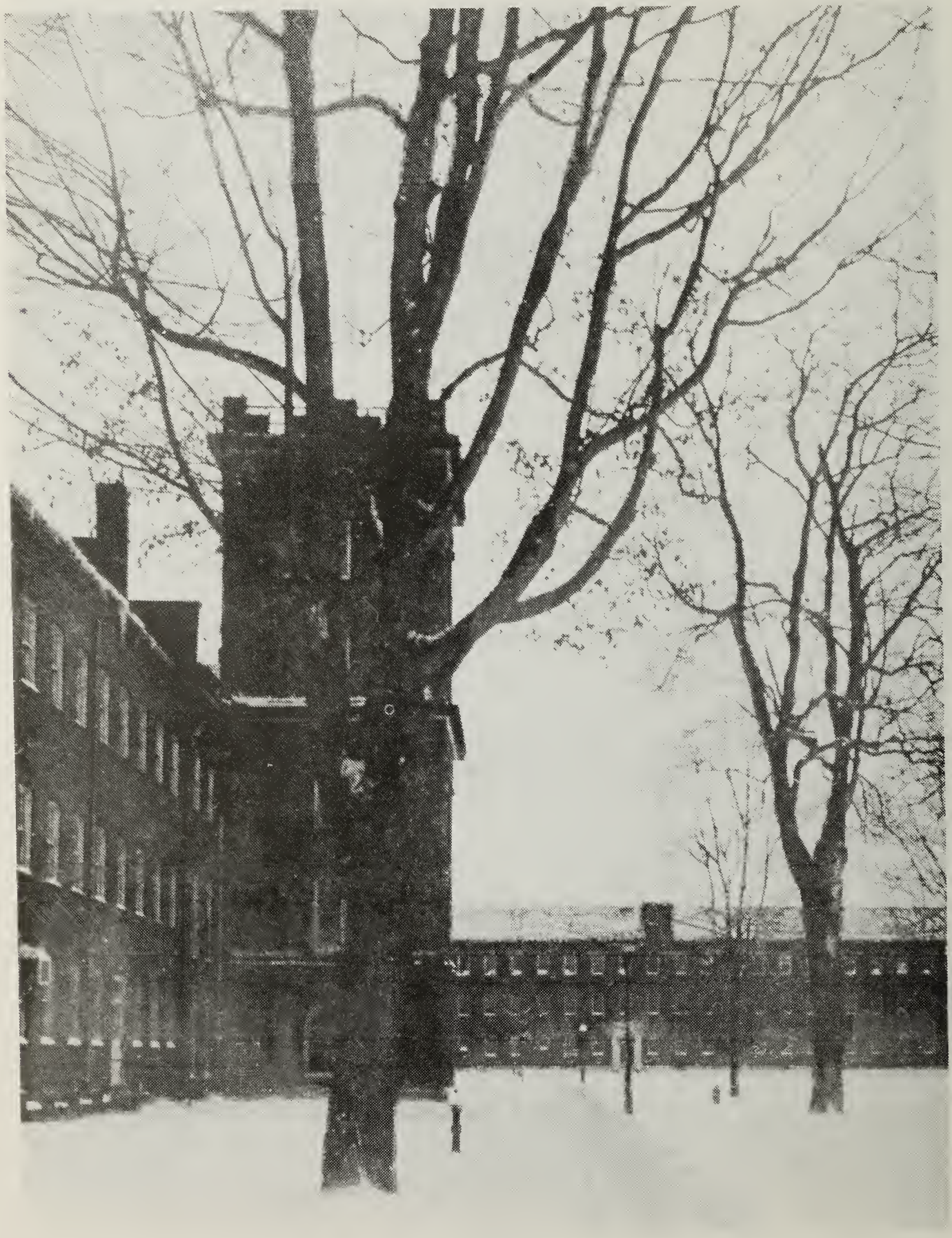
Raymond Bartolucci — Mass. Mutual Communications
Associate Director — Springfield, MA

Robert Chadborne — WHYN-TV
Reporter/Writer — Springfield, MA

Scott Kurmit — WGBY-TV
Program Director — Springfield, MA

Ruth McGreggor — WWLP-TV
Engineer Director — Springfield, MA

Directory Information as of November, 1978



Index

GENERAL INDEX

	Page No.
Academic Calendar	2
Academic Department Numbers	187
Academic Divisions Directory	162
Academic Information	13
Academic Programs	27
Academic Regulations and Honors	13
Academic Standing	13
Accounting Courses	58
ACCOUNTING PROGRAM	55
Accreditation	6
Administrative Offices Directory	161
Admissions	7
ADVANCED METAL MACHINING TECHNOLOGY PROGRAM	94
Afro-American Resource Center	18
ALLIED HEALTH SCIENCES PROGRAMS	31
AMERICAN STUDIES PROGRAM	88
Application Procedure (Admissions)	7
Application Procedure (Financial Aid)	12
Art Courses	132
ASSOCIATE DEGREE IN NURSING FOR REGISTERED NURSES PROGRAM	42
Athletics	18
Auditing of Classes	14
AUTOMOTIVE TECHNOLOGY PROGRAM	96
Awards	19
Basic Educational Opportunity Grants	12
BILINGUAL SECRETARIAL PROGRAM	69
Biology Courses	148
BIOLOGY OPTION PROGRAM	129
BIO MEDICAL TECHNOLOGY PROGRAM	97
Board of Higher Education Scholarship	12
Books and Supplies	10
Bookstore	19
BUSINESS ADMINISTRATION PROGRAMS	54
BUSINESS ADMINISTRATION TRANSFER PROGRAM	66
Business Law Courses	61
Campus Map	Inside Back Cover
Career Center	18
Career Programs	27
Challenge Examinations	7
Chemistry Courses	150
CHEMISTRY OPTION PROGRAM	129
CIVIL ENGINEERING TECHNOLOGY PROGRAM	99
Class Attendance	13
Class Schedule	13
CLEP Examinations	7
CLERICAL OFFICE ASSISTANT PROGRAM	70
Clinical Faculty-Health Education Directory	172
Code of Conduct	15
College Vehicles	19
College Work-Study Program	12
Commonwealth Transfer Compact	24
COMPUTER MAINTENANCE TECHNOLOGY PROGRAM	109
COMPUTER OPERATOR PROGRAM	67
COMPUTER PROGRAMMING OPTION	67
Constitution of Student Association	22
Cooperative Education Program	27
COSMETOLOGY PROGRAM	76
Course Changes	14
Course Description Index Alphabetical	188
Course Description Index Numerical	193
Course of Study	27
Course Withdrawal	14
COURT STENOGRAPHY PROGRAM	70
Curricula of the College	29
DATA PROCESSING SYSTEMS ANALYST OPTION	67
DATA PROCESSING TECHNOLOGY PROGRAMS	67
Dean's List	14
DENTAL ASSISTING PROGRAM	32
DENTAL HYGIENE PROGRAM	34
Department Advisory Council	177
Directories	159
Division of Continuing Education	26
DRAFTING AND DESIGN TECHNOLOGY PROGRAM	101
EARLY CHILDHOOD EDUCATION PROGRAM	77
Economics Courses	140
ELECTRICAL TECHNOLOGY PROGRAM	102
ELECTRO-MECHANICAL TECHNOLOGY PROGRAM	104
ELECTRONIC BENCHWORK TECHNOLOGY PROGRAM	105
ELECTRONICS TECHNOLOGY PROGRAM	107
EMERGENCY MEDICAL TECHNICIAN PROGRAM	36
ENGINEERING AND SCIENCE TECHNOLOGIES PROGRAM	127
ENGINEERING TRANSFER PROGRAM	128
Engineering Science Courses	146
ENGINEERING TECHNOLOGIES PROGRAMS	93
ENGINEERING TRANSFER/TECHNOLOGY CORE PROGRAM	130
English Courses	133
ENVIRONMENTAL TECHNOLOGY PROGRAM	110
Examinations and Grades	13
EXECUTIVE SECRETARIAL PROGRAM	70
FACILITIES ENGINEERING TECHNOLOGY PROGRAM	112
Faculty and Administrative Directory	164
Finance Courses	60
FINANCE PROGRAM	55
Financial Aid	12
FIRE PROTECTION AND SAFETY TECHNOLOGY PROGRAM	79
Foreign Language Courses	136
GENERAL BUSINESS PROGRAM	55
General Information	5
GENERAL STUDIES PROGRAM	89
Graduation Fee	10
Graduation Requirements	13
GRAPHIC ARTS TECHNOLOGY PROGRAM	114
Health Insurance Claim Procedure	20
HEATING/POWER/AIR CONDITIONING TECH. PROGRAM	116
HELP Loans	12
History of the College	6
History Courses	140
Honor Societies	14
HUMAN AND COMMUNITY SERVICES PROGRAMS	31
Humanities Courses	131
Individual Learning Center - Mathematics	27
Insurance Fee	20
Interviews (Admissions)	7
LANDSCAPE TECHNOLOGY PROGRAM	118
LASER ELECTRO-OPTICS TECHNOLOGY PROGRAM	120
LAW ENFORCEMENT PROGRAM	81
LEEP Program Funds	12
LEGAL SECRETARIAL PROGRAM	70
LIBERAL ARTS AND SCIENCES PROGRAMS	87
LIBERAL ARTS TRANSFER PROGRAM	91
Library	17
MACHINE & TOOL DESIGN TECHNOLOGY PROGRAM	121
Make-Up Examinations	13
Management Courses	61
MANAGEMENT PROGRAM	35
Marketing Courses	64
MARKETING PROGRAM	56
Mass. Board of Reg. Community Colleges Dir.	160
Mathematics and Natural Science Courses	145
Mathematics Courses	151
MATHEMATICS OPTION PROGRAM	129
Medical and Emergency Health Service	20
MEDICAL ASSISTANT PROGRAM	37
MEDICAL LABORATORY TECHNICIAN PROGRAM	38
MEDICAL SECRETARIAL PROGRAM	71
MENTAL HEALTH TECHNICIAN PROGRAM	83
MODERN STUDIES PROGRAM	88
Music Courses	137
National Direct Student Loans	12
NUCLEAR MEDICAL TECHNICIAN PROGRAM	39
NURSING PROGRAM	41
Nursing Student Loan Program	12
Nursing Scholarship Program	12
Objectives of the College	6
OCCUPATIONAL SAFETY & HEALTH TECH. PROGRAM	85
OCCUPATIONAL THERAPY PROGRAM	43
Off-Campus Residence	16
OPERATING ROOM TECHNICIAN PROGRAM	44
Parking	19
Parking Fee	10
Payment of Bills	10
Philosophy of the College	6
PHYSICAL THERAPIST ASSISTANT PROGRAM	45
Physics Courses	155
PHYSICS OPTION PROGRAM	129
Placement Service	18
Placement Testing	8
Policy for Plannning a Student Social Activity	20
Political Science/Government Courses	143
PRE-DENTAL OPTION PROGRAM	129
PRE-MEDICAL OPTION PROGRAM	129
Pre-Registration	14

Prerequisites for Admission 9
President's List 14
President's Message 5
PRE-VETERINARY OPTION PROGRAM 129
Privacy Rights of Parents and Students 15
Private Organization Scholarships 12
Program Changes 14
Psychology and Education Courses 142

RADIATION THERAPY PROGRAM 46,47
RADIOLOGIC TECHNOLOGY PROGRAM 48,49
Re-admission 7
Registration 14
Repetition of Courses 14
RESPIRATORY THERAPY PROGRAM 50,51

SECRETARIAL SCIENCE PROGRAMS 69
Smoking and Food Policy 20
Social Science Courses 139
Sociology/Anthropology Courses 141
SOLAR ENERGY OPTION PROGRAM 123
Special Student Services 17
Statistics Courses - Business 65
STCC Advisory Board Directory 160
STCC Area Manpower Advisory Council Dir. 175
Student Activity Fee 10
Student Grievance Procedure 20
Student Information 15
Student Information Post 18
Student Insurance 10
Student Rights and Responsibilities 15
Summary of Tuition and Fees 11
Supplementary Educational Opportunity Grants 12

TELECOMMUNICATIONS TECHNOLOGY PROGRAM 124
Transfer into STCC 7
Transfer Programs 27
Tuition and Fees 10
Tuition Refunds 10

Veterans Information 30

ACADEMIC DEPARTMENT NUMBERS

DEPT. NO.	DEPT. NAME
46	Advanced Metal Mach. Tech.
96	American Studies
70	Automotive Technology
39	Bio-Medical Technology
51	Business Admin/Accounting
52	Business Admin/Finance
53	Business Admin/Management
54	Business Admin/Marketing
50	Business Administration
71	Civil Engineering Tech.
65	Clerical Office Assistant
28	Computer Maintenance Tech.
40	Cosmetology
59	Court Stenography
30	Data Processing
41	Dental Assistant
63	Dental Hygiene
84	Developmental Nursing
81	Early Childhood Education
31	Electrical Technology
37	Electro Mechanical Tech.
69	Electronic Benchwork Tech.
32	Electronic Technology
82	Emergency Medical Technology
20	Engineer & Sci. Transfer
83	Environmental Technology
26	Facilities Engineering Technology
16	Fire Prot. & Safety Tech.
36	Graphic Arts Technology
33	Heat/Power/Air Cond. Tech.
72	Landscape Technology
35	Laser Electro-Optics Tech.
15	Law Enforcement
76	Liberal Arts Gen. Studies
75	Liberal Arts Transfer
34	Machine Design Tech.
42	Medical Assistant
43	Medical Laboratory Tech.
49	Mental Health
86	Modern Studies
79	Nuclear Med. Technology
80	Nursing
87	Occupational Therapy Technology
47	Operating Room Technology
17	OSHA
44	Physical Therapist Assistant
77	Radiation Therapy
78	Radiologic Technology
48	Respiratory Therapist
85	RN Nursing
66	Secretarial/Bilingual
61	Secretarial/Executive
60	Secretarial/Legal
62	Secretarial/Medical
29	Solar Energy
56	Telecommunication Tech.

COURSE DESCRIPTION INDEX - ALPHABETICAL

Title	Page No.
A Survey of Black American Litereture 1	135
A Survey of Black American Literatura 2	136
A Survey of Major American & Europeen Novels	135
A Survay of Major American & Europaen Poets	135
AC Fundamantals	102
Accounting 1	59
Accounting 2	59
Adolescent Psychology	140
Advenced Computar Topics	109
Advanced Cost Accounting	59
Advanced English Composition 1: Ideas for Expository	136
Advenced English Composition 2: Intro. to Creative Writing	136
Advanced Heeting System Design	116
Advenced Instructionel TV	125
Advenced Protection Systems	79
Advanced TV Production	125
Advenced TV Writing	124
Advenced TV Journelism	125
Advanced Typogrephy	115
Advertising end Promotion	64
Affiliation	32
Affiliation Workshop & Clinicel Prectica	50
Air Sample Anelysis & Control Procassas	110
Air-Conditioning Lab	117
Alphebet Keyboerd Mestery	115
Alternative Energy Systems, Intro. to	123
Amarican Government end Politics	142
Amaricen Literatura 1	134
American Literature 2	134
Anelysis of Commerciel & Public TV	124
Anelytic Geometry	152
Anelytic Geometry & Calculus 1	152
Anelytic Geometry & Calculus 2	152
Anatomy & Physiology 1	39, 46, 49, 148
Anetomy & Physiology 2	39, 46, 49, 148
Anthropology, Intro. to	141
Applied Physiology	150
Arboricultura	119
Architectural Dasign & Spacificetions 1	100
Architecturel Design & Specificetions 2	100
Arson 2	80
Art History 1	132
Art History 2	132
Auditing	59
Automatic Trensmissions	96
Automotive Chamistry	150
Bel-Basic Assembly Lenguaga	66
Benk Menagement	60
Basic Concepts of 2 Dimensionel Design	133
Basic Concepts of 3 Dimensional Design	133
Basic Dermetology	76
Basic Drewing	132
Basic Electronics 1	97, 105, 107
Basic Electronics 2	97, 105, 107
Basic English Conversationel Skills 1	135
Basic Instrumentetion	111
Basic Science 1	155
Basic Science 2	156
Basic Science 3	149
Basic Study Skills in Spenish	137
Beauty Salon Management	76
Bible as Literature, The	134
Bilinguel Machine Transcription	69
Bilinguel Typing	69
Biological Systams for tha Dentel Assistent	32
Bio-Med Electronic Systems 392	97
Biochamistry for Health Sciances	34, 149
Biochemistry	151
Biologia en Espenol 1	149
Biologia en Espenol 2	149
Biology of Man	149
Blue Print Reading	95
Brakes	96
Building Construction	79
Business English	133
Business Law 1	61
Business Law 2	61
Business Methamatics	71
Business Policies	61
Business Statistics	65
Cable TV	125
Calculus 1	152
Calculus 2	152
Calculus 3	152
Calibration & Standardizetion	98
Career Planning & Davalopment	142
Casualty Insurance	63
Chemical Engineering, Intro. to	146
Chemistry of Lithography 1	114
Chamistry of Lithogrephy 2	114, 150
Chemistry 1	150
Chamistry 11	150
Chemistry 12	150
Child and Developmentel Psychology	142
Child Growth end Development	77
Child Health & Nutrition	77
Childrans Litereture	134
Clinicel Lab. 1, Intro. to	38
Clinicel Leb. 2, Intro. to	38
Clerical Offica Practice 1	73
Clinical Chemistry	38
Clinical Dantel Hygiena 1	35
Clinicel Dental Hygiene 2	35
Clinicel Dantel Hygiene 3	35
Clinicel Leb Prectcum	38
Clinicel Prectica	50
Cobol 1	68
Cobol 2	68
Codes - Law & Sefety	98
College Accounting 1	58
Collega Accounting 2	58
College Theater Workshop 1	136
College Theater Workshop 2	136
College Thaeter Workshop 3	136
Combustion Control Circuits	116
Commerciel & Industriel Appraisal	62
Commercial Progremming Controls	116
Communicating in Today's World	124
Communicetion Skills 1	135
Communicetion Skills, Mod. 1	135
Communicetion Skills, Mod. 2	135
Communicetion Skills, Mod. 3	135
Communicetions Systams 1	105, 108
Communications Systems 2	107
Community Dentel Haalth	35
Comparative Economic Systams	140
Computar Concepts & Logic Circuits	102, 107
Computer Concapts	67
Construction Estimeting	100
Construction Metariels	100
Construction Methods & Equipment	100
Construction Menegement	100
Consumar Behavior	64
Consumarism	64
Contamporery Methematics 1	152
Contamporary Mathametics 2	152
Control System Theory	104
Cost Accounting	59
Court Raporting Technology	73
Credit Menegement	60
Criminal Evidence	82
Criminal Investigetion	82
Criminal Justice, Intro. to	82
Criminal Law 1	81
Criminal Law 2	82
Criminal Procedures 1	81
Criminal Procaduras 2	82
Current Economic Problems	140
Curriculum for Opan Education 1	77
Curriculum for Open Educetion 2	77
DC Industriel Applicetions	102
Death and Dying	42
Dental Anatomy	32
Dantal Assisting Techniquas 1	32
Dental Assisting Techniquas 2	33
Dental Hygiene, Intro. to	34
Dantal Hygiene Practice Menegement	35
Dental Materials - Dental Assisting	32
Dental Materials - Dantal Hygiene	35
Dental Radiology - Dental Assisting	32
Dantal Radiology - Dantal Hygiana	35
Dental Racords	33
Dental Sciences 1	32
Dental Sciences 2	33
Dental Specialities	35
Differential Equations	152
Digital Computer Systams	107
Digital Electronics Lab 1	109
Digital Electronics Lab 2	109
Digital Systems, Intro. to	147
Directed Study in Anthropology	142
Directed Study in Art	132
Directed Study in Drama	135
Directed Study in Economics	140

Title	Page No.
Directed Study in French	137
Directed Study in History	141
Directed Study in Literature	135
Directed Study in Political Science	142
Directed Study in Psychology	142
Directed Study in Sociology	142
Directed Study in Speech	135
Drawing Composition	132
Drive Line	96
Early Childhood Art Education	132
Early Childhood Education, Intro. to	77
Earth Forms and Structures	119
Ecology	148
Electro-Mechanicel Systems	104
Electromechanical Circuit Design	102, 104
Electronic Circuitry	106
Electronic Construction Techniques	106
Electronic Instrumentation	105
Electronic Licenses	106, 108
Electronic Troubleshooting 1	106
Electronic Troubleshooting 2	106
Electronics Lab 1	97, 105, 108
Electronics Lab 2	97, 105, 108
Electronics Lab 3	98, 108
Electronics Lab 4	98, 108
Elementary French 1	136
Elementary French 2	136
Elementary Spanish 1	137
Elementary Spanish 2	137
Embryology	149
E.M.T. 1	36
E.M.T. 2	36
E.M.T. 3	36
E.M.T. 4	36
E.M.T. Field Work & Studies 1	36
E.M.T. Field Work & Studies 2	36
Emergency Medical Training	80
Engine Diagnosis and Tune-up	96
Engineering 21, Intro. to	146
Engineering 22-Computer Progremming, Intro. to	146
Engineering Economy	122
Engineering Graphics 311	102
Engineering Graphics 331	117
Engineering Graphics 371	101, 104
Engineering Thermodynamics 1	146
Engineering Thermodynamics 2	146
Engineering Mathematics	152
Engineering Measurement and Analysis	146
English as a Second Language 1	136
English as a Second Language 2	136
English as a Second Language 3	136
English Composition 1	133
English Composition 2: An Intro. to Literature	133
English Literature 1	134
English Literature 2	134
Entomology/Disease Control	118
Environmental Studies	110
Environmental Microbiology	148
European Comparative Government	142
Executive Dictation and Transcription	72
Executive Typewriting	71
Expanded Functions for the Dental Hygienist	35
Fashion Color Design & Analysis	64
Fashion Coordination	65
Federal Income Taxes, Intro. to	59
Federal Income Taxes 2	59
Field Study 1	78
Field Study 2	78
Field Work and Studies (Clin. Exp.)	44
Field Work and Studies (Clin. Exp.)	44
Field Work & Studies 1	83
Field Work & Studies 2	84
Field Work & Studies 3	84
Field Work & Studies 4	84
Figure Drawing	133
Film Criticism	136
Finance, Intro. to	60
Financial Statement Analysis	60
Finite Mathematics 1	152
Finite Mathematics 2	152
Fire Causes & Detection - Arson	79
Fire Codes and Ordinances	80
Fire Fighting Tactics & Strategy	79
Fire Hydraulics & Equipment	79
Fire Protection, Intro. to	79
Fire Protection Systems	79
Flexography 1	115

Title	Page No.
Flexography 2	115
Fluid Mechanics	146
Fluid Power	122
Forensic Science	82
Fortran for Technicians	122, 147
Fortran for Technologies	68, 100
Foundations of Health	44
Fuel and Electric Systems	96
Fundamentals of Air-Conditioning	117
Fundamentals of Applied Cosmetology 1	76
Fundamentals of Applied Cosmetology 2	76
Fundamentals of Electricity 311	102, 112
Fundamentals of Electronics 311	102
Fundamentals of Fire Protection	79
Fundamentals of Instrumentation	102, 112
Fundamentals of Power Circuits	102
Fundamentals of Respiratory Therapy	51
Fundementels of Speech	133
Fundamentals of TV Writing	124
Future Politics	142
Gasoline Engine Service	96
Gasoline Engine Systems	96
General Biology 1	148
General Biology 2	148
General Chemistry 21	150
General Chemistry 22	150
General Chemistry 101	150
General Chemistry 102	150
General Chemistry Mod 1	150
General Chemistry Mod 2	151
General Chemistry Mod 3	151
General Chemistry Mod 4	151
General Chemistry Mod 5	151
General Chemistry Mod 6	151
General Chemistry Mod 7	151
General Chemistry Mod 8	151
General Psychology	142
Genetics	149
Geometrical Optics	120
Governmental & Fund Accounting	59
Graphic Arts Processes 1	115
Graphic Arts Processes 2	115
Graphic Design	115
Graphics Design Lab	101
Graphics for Electronic Technology	108
Group and Social Insurance	63
Hazardous Materials	79
Heat Transfer	147
Heating System Design	116
Hematology and Coagulation	38
Histology	149
Histology & Oral Pathology	35
History & Culture of Puerto Rico & Hispanic Am.	69
History of Soviet Russia	141
History of the Pioneer Valley	141
History of the Russian Empire	141
History of U.S. Before 1865	141
History of U.S. Since 1865	141
History of Western Civilization 1	140
History of Western Civilization 2	140
Human Anatomy & Phys. for Mental Health/Human Serv. 1	150
Human Anatomy & Phys. for Mental Health/Human Serv. 2	150
Human Anatomy 1	149
Human Biology 1	148
Human Biology 2	148
Human Relations at Work	142
Human Sexuality in Nursing	42
Hydronic Layouts & Construction	116
Immunohematology and Serology	38
Independent Study Chemistry 1	150
Independent Study Chemistry 2	150
Independent Study of Mathematics 1	151
Independent Study of Mathematics 2	151
Independent Study-Physics 1	157
Independent Study-Physics 2	157
Individual Progress Shorthand 1	70
Individual Progress Shorthand 2	70
Industrial & Organizational Psychology, Intro. to	142
Industrial Control Applications	116
Industrial Materials	94, 121
Industrial Electronic Circuits	102
Industrial Health & Safety	110
Industrial Electromechanical Systems	102, 104
Industrial Safety, Intro. to	85
Instructional TV Techniques	124

Title	Page No.
Instrumentel Analysis	151
Instrumentation Project	98
Insurance Law	61
Integrated Electronics	107
Intermediate Accounting 1	59
Intermediate Accounting 2	59
Intermedlete French 1	137
Intermediate French 2	137
Intermediate Keyboard Skills	138
Intermediate Spenish 1	137
Intermediate Spanish 2	137
Internetional Relations-World Politics	142
Interpersonal Relationships in Nursing	42
Introductory Geography	141
Introductory Analysis	152
Introductory Astronomy 1	156
Introductory Astronomy 2	156
Investigations in Biology 1	148
Investigations in Biology 2	148
Investments	60
I.P.M. Trenscription	69
Irish Literature	134
Juvenile Procedures	82
Keyboerd Skills, Intro. to	137
Kinesiology	45
Lebor Relations	61
Landscape Design 1	118
Landscape Design 2	118
Landscape Operations	119
Lasers, Intro. to	120
Laser Electro-Optic Components	120
Laser Projects	120
Law Enforcement Management & Planning	82
Law Enforcement Photography	82
Layout and Copy Preparetion	115
Legal Aspects of Fire Protection	79
Legal Dictation and Transcription	72
Legel Office Practice	73
Legal Typewriting	71
Life, Accident & Health Insurance	63
Linear Algebre	152
Literature and the Search for Self	134
Loen Finencing & Administration	60
Local History of the American Revolution	141
Love & Merriage: Literery Perspectives	134
Machine & Assembly Languages	109
Machine Design 1	121
Machine Design 2	121
Machine Design 3	121
Machine Design 4	122
Machine Dictation and Transcription	72
Machine Shop Estimeting	95, 122
Mechine Shop Techniques	96, 112
Machine Shop Techniques-Mod 1	148
Machine Shop Techniques-Mod 2	148
Machine Shop Techniques-Mod 3	148
Machine Shop Techniques-Mod 4	148
Machine Shop Techniques-Mod 5	148
Machine Shop Techniques-Mod 6	148
Mechine Shop Techniques-Mod 7	148
Machine Shop Techniques-Mod 8	148
Mechine Shop Techniques-Mod 9	148
Machine Shop Techniques-Mod 10	148
Mechine Shorthend 1	73
Machine Shorthend 2	73
Machine Shorthend 3	73
MMechine Trenscription, Intro. to	73
Maintenance Problems	113
Menegement & Orgenizetion for the Medical Office	64
Manegeriel Accounting	59
Manageriel Finance	60
Matematices	153
Materiel Science, Intro. to	146
Materiel Science Leb	147
Materiels Testing Leb	100
Mathemetics	153, 154, 155
Mathemetics-Slide Rule	154
Mathemetics 15	151
Mathematics 16-Computer Logic	151
Methematics 22	151
Methemetics 23	151
Mathemetics 24	151
Methemetics of Radiology	39, 46, 49, 152
Meesuring Principles 1	98
Measuring Principles 2	98
Mechanical Skills & Proc. 1	112
Mechanical Skills & Procedures 2	117
Mechanical Ventiletion & Resuscitation	51
Mechenics of Meterials	147
Mechanics 1	146
Mechanics 2	146
Mechanisms	94
Medical Accounting	58, 71
Medical Assisting Techniques 1	37
Medical Assisting Techniques 2	37
Medical Assisting Techniques for Secretaries 1	74
Medical Assisting Techniques for Secretaries 2	74
Medical Assistant Seminar & Field Work	37
Medical Assisting Techniques 3	37
Medical Dictetion and Transcription	72
Medical Lew & Ethics	37,39,46,49,61,72
Medical Lew for Health Personnel	61
Medical Lectures	45
Medical Mechine Transcription	73
Medical Microbiology, Intro. to	38
Medical Office Accounting & Mgt.	59
Medical Office Prectice 1	71
Medical Office Prectice 2	72
Medical Secreterial Typing	72
Medical Shorthend	71
Medical Terminology	40,46,49
Medical Typewriting	71
Merchandising	64
Metal Machining 1	95
Metel Mechining 2	95
Metel Machining 3	95
Metal Mechining 4	95
Microbiology	148
Microbiology for Dental Assistents	32
Microprocessor Theory	109
Modern Britian & Frence, Intro. to	140
Modern Psychiatry for Nurses	42
Modern Treditlon	136
Modern U.S. Diplometic History	140
Money and Benking	60
Music Appreciation	137
Music for Eerly Childhood Educetion	138
Neturel History	148
Nuclear Medicine 1	40
Nuclear Medicine 2	40
Nuclear Medicine 3	40
Nuclear Medicine 4	40
Nuclear Physics 1	39
Neuro Pethology	43
Nursing Cere of the Aging Patient	42
Nursing Process	42
Nursing 1	41
Nursing 2	41
Nursing 3	41
Nursing 4	41
Nursing 5	41
Nutrition	34
Observation & Recording Field Study	78
Observation & Recording of Child Behevior	78
Occupetional Safety & Health 1	85
Occupational Safety & Health 2	85
Occupetional Safety & Health 3	85
Occupational Therepy Assistent 1	43
Occupational Therepy Assistent 2	43
Occupationel Therapy Assistent 3	43
Office Menagement & Control	62
Offset Presswork 1	115
Offset Presswork 2	115
Offset Stripping & Platemaking	115
Oral Anatomy	34
Organic Chemistry	150
Organic Chemistry 1	151
Organic Chemistry 2	151
Organization & Management of Fire Depertments	79
ORT 1	44
ORT 2	44
ORT 3	44
ORT 4	44
O.T. Field Work & Studies	43
Painting	132
Painting	132
Peresitology	38
Perole, Probation & Rehabilitation	81
Periodontology	34
Personal Financial Planning	60
Personnel Management	61

Title	Page No.
Pharmacology-ORT	44
Pharmacology	35
Physical Science 1	156
Physical Science 2	156
Physical Therapist Assisting 1	45
Physical Therapist Assisting 2	45
Physical Therapist Assisting 3	45
Physical Therapist Seminar	45
Physics 1	156
Physics 2	156
Physics 11	156
Physics 12	156
Physics 21	156
Physics 22	156
Physics 23	157
Plant Propagation	118
Police-Community Relations	82
Pottery 1	133
Power Plant Operation 1	113,117
Power Plant Operation 2	113,117
Practical Medical Spanish	38,40,45,49,137
Practical Spanish for Human Services	137
Pre-Calculus 1	154
Pre-Calculus 2	154
Presentation Techniques	119
Principles & Development of Tourism 1	64
Principles & Development of Tourism 2	64
Principles of Banking	60
Principles of Biology 1	149
Principles of Biology 2	149
Principles of Cosmetology Theory	76
Principles of Economics 1	140
Principles of Economics 2	140
Principles of Horticulture	119
Principles of Insurance	63
Principles of Management	61
Principles of Marketing	64
Principles of Normal/Abnormal Behavior	142
Principles of Nursing Leadership	42
Principles of Operating Room Nurse	42
Principles of Real Estate	62
Principles of Refrigeration	112,117
Principles of Transportation 1	62
Principles of Transportation 2	62
Printing Management	114
Printing Production Management	115
Printmaking: Relief 1	132
Printmaking: Relief 2	132
Problems of Alcoholism & Related Dependencies	142
Process Photography	115
Process Problems 1	110
Production Control	94
Production Management	62
Production Planning & Control	62
Production Processes	95
Production Techniques 1	115
Production Techniques 2	115
Programmed Engineering Graphics-Mod 1	46,101,147
Programmed Engineering Graphics-Mod 2	101,147
Programmed Engineering Graphics-Mod 3	101,147
Programmed Engineering Graphics-Mod 4	101,147
Programmed Engineering Graphics-Mod 5	101,147
Programmed Engineering Graphics-Mod 6	101,147
Programmed Engineering Graphics-Mod 7	101,147
Programmed Engineering Graphics-Mod 8	101,147
Programmed Engineering Graphics-Mod 9	101,147
Programmed Medical Terminology	37
Programmed Physics-Mod 1	156
Programmed Physics-Mod 2	156
Programmed Physics-Mod 3	156
Programmed Physics-Mod 4	156
Programming, Intro. to	109,122
Property Insurance	63
Psychology of the Exceptional Child	142
Psychology of Drug Abuse	142
Psychology of Human Adjustment & Personal Effect.	142
Psychosocial Issues in Nursing Cere	42
Public, Labor & Human Relations	80
Pulmonary Function Testing	51
Pulse and Digital Circuits	97,107
Purchasing	62
Quantative Analysis	151
Race and Ethnic Relations	141
Radiation Physics 1	46
Radiation Physics 2	46,155
Radiation Therapy Techniques 1	46
Radietion Therapy Techniques 2	47
Radiation Therapy Techniques 3	47
Radiation Therapy Techniques 4	47
Radiologic Physics 1	39,49,157
Radiologic Physics 2	49,157
Radiologic Physics 3	157
Radiologic Technology 1	49
Radiologic Technology 2	49
Radiologic Technology 3	49
Radiologic Technology 4	49
Reading Module 1	135
Reading Module 2	135
Reading Module 3	135
Real Estate Law	61
Real Estate Investments & Financing	62
Real Estate Management	63
Records Management 1	73
Records Management 2	73
Residental Appraisal	62
Respiratory Therapy 1	50
Respiratory Therapy 2	51
Respiratory Therapy Application & Clinical Sciences 1	50
Respiratory Therapy Application & Clinicel Sciences 2	50
Respiratory Therapy Physics	50,157
Retailing	64
RPG 1-Report Program Generator Level 1	68
RPG 2-Programming 2	68
Sales and Sales Management	64
Science & Technology in Society	150
Secretarial Practice 1	72
Secretarial Practice 2	72
Semiconductor Circuits 1	97,105,107
Semiconductor Circuits 2	98,108
Semiconductors & Transistors 1	102
Semiconductors & Transistors 2	102
Seminar and Critique	78
Seminar and Review/Lab 1	84
Seminar and Review 1	84
Seminar and Review 2	84
Seminars in Applied Chemistry	151
Seminars in Dental Assisting	33
Seminar-Surgical-ORT	44
Senior Engineering Seminar	146
Shorthand 1	72
Shorthand 2	72
Shorthand 3	72
Shrubs in the Landscape	118
Skill Building	72
Small Business Accounting & Control	59
Small Business Law	61
Smell Business Management	61
Small Business Marketing	64
Small Business Personnel Management	63
Small Business Planning, Control & Finance	60
Small Business Practicum	63
Small Business Seminar	63
Social Problems	141
Sociology, Intro. to	141
Sociology of the Family	141
Soils and Foundations	100
Solar Energy 1	123
Solar Energy 2	123
Spanish for Spanish Speakers 1	69
Spanish for Spenish Speakers 2	69
Speeking on TV	124
Special Occupancy Fire Systems	80
Special Projects in Engineering Technology 1	146
Special Projects in Engineering Technology 2	146
Special Projects in Engineering 1	146
Special Projects in Engineering 2	146
Specialized Machinery	95
Statics	100
Statistics	65,152
Statistics & Quality Control	152
Steering and Front Suspension	96
Strength of Materials	94,121
Structures 1	100
Supervised Clinical Experience	45
Supervised Lab Practicum 1	76
Supervised Lab Practicum 2	76
Supervised Student Practicum	78
Supervisory Management	62
Survey of American & European Short Stories	135
Survey of Current Early Learning Programs	78
Surveying 1	99
Surveying 721	100,119
Systems Analysis 1	146
Systems Analysis 2	146
Systems Evaluation 1	104

Title	Page No.
Systems Evaluation 2	104
Systems Operations & Maintenance	110,112
Technical Report Writing	133
Techniques of Management	62
Theatre, Intro. to the	136
The Bible as Literature	136
Theories of Learning & Personality Development	77
Theory of Controls	112,116
Translation for Bilingual	69
Transportation 1	100
Travel Agency Operation	64
Treatment Plant Operations 1	110
Treatment Plant Operations 2	111
Trees in the Landscape	118
Trust Funds and Services	60
Turf Management	118
TV Honors	125
TV Journalism	125
TV Producing and Directing	124
TV Production, Intro. to	124
TV Production Practicum	125
Typewriting 1	71
Typewriting 2	71
Typing Lab 1	69
Typing Lab 2	69
Typography and Copy Preparation	115
Video Production	124
Word Processing, Intro. to	73
Wastewater Sample and Process	110
Water Sample Analysis & Control Processes	110
Wave Optics	120
Women in Literature	134
Work Methods & Design	64
Work Simplification	94
World Literature 1	133
World Literature 2	133
Zoology, Intro. to	148



COURSE DESCRIPTION INDEX - NUMERICAL

HUMANITIES COURSES

Title		Page No.
1004	English Composition 1	133
1005	English Composition 2: An Introduction to Literature	133
1006	Business English	133
1007	Fundamentals of Speech	133
1008	Technical Report Writing	133
1009	World Literature 1	133
1010	World Literature 2	133
1012	English Literature 1	134
1013	American Literature	134
1014	American Literature 2	134
1015	Irish Literature	134
1018	Childrens Literature	134
1019	English Literature 2	134
1023	Women in Literature	134
1025	Love & Marriage: Literary Perspectives	134
1047	Literature and the Search for Self	134
1053	Reading Module 1	135
1054	Reading Module 2	135
1055	Reading Module 3	135
1080	Practical Medical Spanish	38,40,45,47,49,137
1084	Elementary French 1	136
1085	Elementary French 2	136
1086	Intermediate French 1	137
1087	Intermediate French 2	137
1096	Elementary Spanish 1	137
1097	Elementary Spanish 2	137
1098	Intermediate Spanish 1	137
1099	Intermediate Spanish 2	137
1100	Communication Skills 1	135
1104	A Survey of Black American Literature 1	135
1105	A Survey of Major American & European Poets	135
1107	A Survey of Major American & European Novels	135
1108	Survey of American & European Short Stories	135
1109	Advanced TV Writing	124
1110	Fundamentals in TV Writing	124
1112	Basic Study Skills in Spanish	137
1113	Directed Study in French	137
1115	Basic English Conversational Sk. 1	135
1116	Directed Study in Literature	135
1118	Directed Study in Art	132
1121	Directed Study in Drama	135
1122	Directed Study in Speech	135
1123	Film Criticism	136
1124	College Theater Workshop 1	136
1125	College Theater Workshop 2	136
1126	College Theater Workshop 3	136
1127	Introduction to the Theatre	136
1128	Advanced English Composition 1: Ideas for Expo.	136
1129	Advanced English Composition 2: Intro. to Creat. Writ.	136
1131	English as a Second Language 1	136
1132	English as a Second Language 2	136
1137	The Bible as Literature	134
1141	Modern Tradition	136
1147	Spanish for Spanish Speakers 1	69
1148	Spanish for Spanish Speakers 2	69
1150	English as a Second Language 3	136
1152	Translation for Bilingual	69
1156	Communication Skills, Mod 1	135
1157	Communication Skills, Mod 2	135
1158	Communication Skills, Mod 3	135
1171	Practical Spanish for Human Services	137

MATHEMATICS COURSES

2001	Independent Study of Mathematics 1	151
2002	Independent Study of Mathematics 2	151
2008	Mathematics 15	151
2009	Mathematics 16-Compiter Logic	151
2011	Business Mathematics	71
2012	Mathematics 22	151
2013	Mathematics 23	151
2014	Mathematics 24	151
2015	Statistics & Quality Control	152
2016	Statistics	65,152
2020	Engineering Mathematics	152
2074	Pre-Calculus 1	154
2075	Pre-Calculus 2	154
2076	Contemporary Mathematics 1	152
2077	Contemporary Mathematics 2	152
2080	Finite Mathematics 1	152
2081	Finite Mathematics 2	152
2082	Analytic Geometry & Calculus 1	152
2083	Analytic Geometry & Calculus 2	152
2084	Mathematics of Radiology	39,46,49,152
2085	Analytic Geometry	152
2086	Calculus 1	152
2087	Calculus 2	152
2088	Calculus 3	152
2089	Linear Algebra	152
2090	Differential Equations	152
2092	Introductory Analysis	152
2101	Mathematics	153
2102	Matematicas	153
2103	Matematicas	153
2111	Matematicas	153
2112	Matematicas	153
2113	Matematicas	153
2211	Mathematics	153
2221	Mathematics	153
2231	Mathematics	154
2241	Mathematics	154
2300	Mathematics	153
2301	Individual Learning Center-Mathematics	153
2302/03	Mathematics	153
2311/12/13	Mathematics	153
2321/22/23	Mathematics	153
2331/32	Mathematics	153
2333	Mathematics	154
2334	Mathematics - Slide Rule	154
2341-44	Mathematics	154
2350-57	Mathematics	154
2358-65	Mathematics	155

SCIENCE COURSES

3002	Chemistry 1	150
3003	Chemistry of Lithography 2	114,150
3005	General Chemistry 21	150
3006	General Chemistry 22	150
3007	Chemistry of Lithography 1	114
3009	Automotive Chemistry	150
3010	Physical Science 1	156
3011	Physical Science 2	156
3012	Physics 1	156
3013	Physics 2	156
3014	Respiratory Therapy Physics	50,157
3015	Physics 21	156
3016	Physics 22	156
3017	Physics 23	157
3022	Trees in the Landscape	118
3023	Shrubs in the Landscape	118
3024	Turf Management	118
3025	Entomology/Disease Control	118
3026	Ecology	148
3028	Microbiology	148
3031	Physics 11	156
3032	Physics 12	156
3033	Basic Science 1	155
3034	Basic Science 2	156
3035	Radiation Physics 1	46
3036	Radiation Physics 2	46,155
3037	Nuclear Physics 1	39
3041	Independent Study-Physics 1	157
3042	Independent Study-Physics 2	157
3051	Investigations in Biology 1	148
3052	Investigations in Biology 2	148
3061	Independent Study-Chemistry 1	150
3062	Independent Study-Chemistry 2	150
3077	Human Biology 1	148
3078	Human Biology 2	148
3079	Intro. to Zoology	148
3080	General Biology 1	148
3081	General Biology 2	148
3083	Radiologic Physics 1	39,49,157
3084	Radiologic Physics 2	49,157
3085	Natural History	148
3086	Chemistry 11	150
3087	Chemistry 12	150
3088	Environmental Microbiology	148
3090	Radiologic Physics 3	157
3091	Anatomy & Physiology 1	39,46,49,148
3092	Anatomy & Physiology 2	39,46,49,148
3093	Human Anatomy 1	149
3095	Science & Technology In Society	150
3096	Introductory Astronomy 1	156
3097	Introductory Astronomy 2	156
3099	Basic Science 3	149
3100	Principles of Biology 1	149
3101	Principles of Biology 2	149
3106	Organic Chemistry	150
3109	General Chemistry 101	150
3110	General Chemistry 102	150
3111	General Chemistry Mod 1	150
3112	General Chemistry Mod 2	151
3113	General Chemistry Mod 3	151
3114	General Chemistry Mod 4	151
3115	General Chemistry Mod 5	151
3116	General Chemistry Mod 6	151

	Title	Page No.
3117	General Chemistry Mod 7	151
3118	General Chemistry Mod 8	151
3120	8iochemistry	151
3122	Seminars in Applied Chemistry	151
3125	Organic Chemistry 1	151
3126	Organic Chemistry 2	151
3127	Instrumental Analysis	151
3128	Quantitative Analysis	151
3130	Biology of Man	149
3132	Histology	149
3134	Embryology	149
3136	Genetics	149
3138	Biochemistry for Health Sciences	34,149
3139	8iologia en Espanol 1	149
3140	Biologia en Espanol 2	149
3141	Biological Systems for the Dental Assistant	32
3145	Applied Physiology	150
3220	Human Anatomy & Phys. for Mental Health/Hum. Serv.	115
3221	Human Anatomy & Phys. for Mental Health/Hum. Serv.	215
3311	Programmed Physics-Mod 1	156
3312	Programmed Physics-Mod 2	156
3313	Programmed Physics-Mod 3	156
3314	Programmed Physics-Mod 4	156
3325	Forensic Science	82
3856	Microbiology for Dental Assistants	32

SOCIAL SCIENCE COURSES

4006	Introduction to Anthropology	141
4008	Introduction to Sociology	141
4009	Social Problems	141
4010	Sociology of the Family	141
4012	History of Western Civilization 1	140
4013	History of Western Civilization 2	140
4014	Principles of Economics 1	140
4015	Principles of Economics 2	140
4016	Current Economic Problems	140
4017	Comparative Economic Systems	140
4020	History & Culture of Puerto Rico & Hispanic Amer.	69
4073	Human Relations at Work	142
4076	Modern U.S. Diplomatic History	140
4078	Intro. to Modern 8ritian & France	140
4079	History of the Russian Empire	141
4080	History of Soviet Russia	141
4081	History of U.S. 8efore 1865	141
4082	History of U.S. Since 1865	141
4083	American Government and Politics	142
4084	European Comparative Government	142
4085	Child and Developmental Psychology	142
4086	General Psychology	142
4087	Princloles of Normal/Abnormal 8ehavior	142
4088	Adolescent Psychology	142
4092	Psychology of Human Adjustment & Personal Effect.	142
4093	Introduction to Industrial & Organizational Psychology	142
4099	Race and Ethnic Relations	141
4102	Psychology of Drug Abuse	142
4103	Psychology of the Exceptional Child	142
4110	Local History of the American Revolution	141
4111	History of the Pioneer Valley	141
4112	International Relations-World Politics	142
4116	The Information War in Vietnam	141
4119	Future Politics	142
4121	Introductory Geography	141
4125	Problems of Alcoholism & Related Dependencies	142
4128	Career Planning & Development	142
4500	Directed Study in Economics	140
4501	Directed Study in Psychology	142
4502	Directed Study in Political Science	142
4503	Directed Study in Sociology	142
4504	Directed Study in History	141
4505	Directed Study in Anthropology	142

8USINESS COURSES

5005	Medical Accounting	58,71
5006	Dental Records	33
5008	Typewriting 1	71
5009	Typewriting 2	71
5010	Legal Typewriting	71
5011	Executive Typewriting	71
5012	Medical Typewriting	71
5013	Medical Shorthand	71
5014	Medical Office Practice 1	71
5015	Medical Office Practice 2	72
5016	Secretarial Practice 1	72
5017	Secretarial Practice 2	72
5018	Shorthand 1	72
5019	Shorthand 2	72
5020	Shorthand 3	72
5021	Executive Dictation and Transcription	72
5022	College Accounting 1	58

	Title	Page No.
5023	Accounting 1	59
5024	Accounting 2	59
5026	Cost Accounting	59
5028	Beauty Salon Management	76
5029	Small Business Management	61
5031	Medical Law & Ethics	37,39,46,49,61,72
5033	Medical Secretarial Typing	72
5034	Medical Dictation and Transcription	72
5036	Legal Dictation and Transcription	72
5037	Medical Terminology	40,46,49
5038	College Accounting 2	58
5039	Machine Dictation and Transcription	72
5040	Intermediate Accounting 1	59
5041	Intermediate Accounting 2	59
5042	Advanced Cost Accounting	59
5044	Managerial Finance	60
5045	Credit Management	60
5046	Money and 8anking	60
5047	Financial Statement Analysis	60
5048	Business Law 1	61
5049	Business Law 2	61
5050	Principles of Management	61
5051	Business Policies	61
5052	Personnel Management	61
5053	Labor Relations	61
5054	Production Management	62
5055	Supervisory Management	62
5056	Personal Financial Planning	60
5057	Production Planning & Control	62
5058	Retailing	64
5059	Principles of Marketing	64
5060	Business Statistics	65
5062	Skill Building	72
5064	Intro. to Federal Income Taxes	59
5068	Advertising and Promotion	64
5069	Sales and Sales Management	64
5070	Consumerism	64
5074	Federal Income Taxes 2	59
5076	Work Methods & Design	62
5081	Consumer Behavior	64
5085	Property Insurance	63
5088	Principles of Insurance	63
5089	Investments	60
5090	Principles of Real Estate	62
5092	Residential Appraisal	62
5093	Commercial & Industrial Appraisal	62
5095	Real Estate Investments & Financing	62
5098	Casualty Insurance	63
5099	Intro. to Finance	60
5108	IPM Transcription	69
5120	Machine Shorthand 1	73
5121	Machine Shorthand 2	73
5122	Machine Shorthand 3	73
5123	Clerical Office Practice 1	73
5124	Records Management 1	73
5125	REcords Management 2	73
5126	Legal Office Practice	73
5127	Court Reporting Technology	73
5129	Medical Machine Transcription	73
5130	Intro. to Word Processing	73
5131	Bilingual Machine Transcription	69
5132	Intro. to Machine Transcription	73
5153	Bilingual Typing	69
5160	Individual Progress Shorthand 1	70
5164	Individual Progress Shorthand 2	70
5191	Medical Office Accounting & Management	59
5200	Life, Accident & Health Insurance	63
5202	Group and Social Insurance	63
5203	Insurance Law	61
5204	Small Business Planning, Control & Finances	60
5205	Small Business Marketing	64
5206	Small Business Practicum	63
5207	Small Business Seminar	63
5208	Small Business Law	61
5209	Real Estate Management	63
5210	Real Estate Law	61
5211	Principles & Development of Tourism 1	64
5212	Principles & Development of Tourism 2	64
5213	Travel Agency Operation	64
5214	Merchandising	64
5215	Fashion Color Design & Analysis	64
5216	Fashion Coordination	65
5217	Principles of Banking	60
5218	Trust Funds and Services	60
5219	Loan Financing & Administration	60
5220	Bank Management	60
5221	Governmental & Fund Accounting	59
5222	Managerial Accounting	59
5223	Auditing	59

	Title	Page No.
5224	Purchasing	62
5225	Techniques of Management	62
5228	Small Business Personnel Management	63
5229	Small Business Accounting & Control	59
5230	Principles of Transportation 1	62
5231	Principles of Transportation 2	62
5232	Office Management & Control	62
5234	Management & Organization for the Medical Office	64
5331	Medical Law for Health Personnel	61
5908	Typing Lab 1	69
5909	Typing Lab 2	69

ENGINEERING TECHNOLOGIES COURSES

6001	Computer Concepts	67
6009	Fortran for Technologies	122,68,100
6011	Bal-8asic Assembly Language	68
6012	Cobol 1	68
6013	Cobol 2	68
6017	RPG 1-Report Program Generator Level 1	68
6018	Fundamentals of Electricity 311	102,112
6019	8asic Electronics 1	97,105,107
6020	Theory of Controls	112,116
6023	Fundamentals of Electronics 311	102
6024	Basic Electronics 2	97,105,107
6025	AC Fundamentals	102
6026	Fundamentals of Instrumentation	102,112
6027	Computer Concepts & Logic Circuits	102,107
6028	DC Industrial Applications	102
6029	Digital Computer Systems	107
6030	Industrial Electronic Circuits	102
6031	Industrial Electromechanical Systems	102,104
6032	Electromechanical Circuit Design	102,104
6033	Semiconductors & Transistors 1	102
6034	Semiconductors & Transistors 2	102
6035	Semiconductor Circuits 1	97,105,107
6036	Electronic Instrumentation	105
6037	Pulse and Digital Circuits	97,107
6038	Communications Systems 2	107
6039	Integrated Electronics	107
6040	Combustion Control Circuits	116
6041	Commercial Programming Controls	116
6042	Heating System Design	116
6043	Advanced Heating System Design	116
6044	Hydronic Layouts & Construction	116
6045	Industrial Control Applications	116
6046	Electro-Mechanical Systems	104
6049	Special Projects in Engineering 1	146
6050	Special Projects in Engineering 2	146
6058	Strength of Materials	94,121
6059	Work Simplification	94
6061	Production Control	94
6062	Printing Management	114
6064	Industrial Materials	94,121
6065	Machine Design 1	121
6066	Machine Design 3	121
6067	Machine Design 4	122
6071	Engineering Graphics 311	102
6073	Engineering Graphics 331	117
6075	Process Photography	115
6077	Graphic Arts Processes 1	115
6078	Graphic Arts Processes 2	115
6083	Layout and Copy Preparation	115
6085	Plant Propagation	118
6086	Landscape Design 1	118
6087	Landscape Design 2	118
6088	Principles of Horticulture	119
6089	Landscape Operations	119
6090	Arboriculture	119
6092	Surveying 1	99
6093	Surveying 721	100,119
6094	Earth Forms and Structures	119
6096	Soils and Foundations	100
6097	Transportation 1	100
6099	Gasoline Engine Systems	96
6100	Gasoline Engine Service	96
6101	Drive Line	96
6102	Automatic Transmissions	96
6103	Brakes	96
6104	Steering and Front Suspension	96
6105	Fuel and Electric Systems	96
6106	Engine Diagnosis and Tune-up	96
6107	Special Projects in Engineering Technology 1	146
6108	Special Projects in Engineering Technology 2	146
6109	Flexography 1	115
6110	Mechanical Skills & Procedures 1	112
6111	Mechanical Skills & Procedures 2	117
6112	Machine Tool Techniques	96,112
6113	Machine Design 2	121
6114	Typography and Copy Preparation	115
6115	Principles of Refrigeration	112,117
6116	Flexography 2	115
6123	Bio-Med Electronic Systems 392	97
6126	Air-Conditioning Lab	117
6132	Control System Theory	104
6140	Presentation Techniques	119
6144	Production Techniques 1	115
6145	Production Techniques 2	115
6150	Fluid Power	122
6154	Intro. to Engineering 21	146
6155	Power Plant Operation 1	113,117
6156	Power Plant Operation 2	113,117
6157	Maintenance Problems	113
6159	Statics	100
6160	Architectural Design & Specifications 1	100
6161	Architectural Design & Specifications 2	100
6163	Construction Estimating	100
6164	Materials Testing Lab	100
6165	Construction Methods & Equipment	100
6166	Radiologic Technology 1	49
6167	Radiologic Technology 2	49
6168	Radiologic Technology 3	49
6169	Radiologic Technology 4	49
6170	Structures 1	100
6173	Construction Materials	100
6175	Intro. to Engineering 22-Computer Programming	146
6176	Senior Engineering Seminar	146
6177	Construction Management	100
6178	Electronics Lab 1	97,105,108
6179	Electronics Lab 2	97,105,108
6180	Electronics Lab 3	98,108
6181	Electronics Lab 4	98,108
6183	Wastewater Sample and Process	110
6186	Environmental Studies	110
6190	Systems Operations & Maintenance	110,112
6191	Process Problems 1	110
6192	Treatment Plant Unit Operations 1	110
6197	Water Sample Analysis & Control Processes	110
6200	Air Sample Analysis & Control Process	110
6201	Industrial Health & Safety	110
6203	Graphic Design	115
6204	Offset Stripping & Platemaking	115
6205	Offset Presswork 1	115
6206	Advanced Typography	115
6207	Offset Presswork 2	115
6212	Semiconductor Circuits 2	98,108
6213	Communications Systems 1	105,108
6217	Mechanics 1	146
6218	Mechanics 2	146
6219	Systems Analysis 1	146
6220	Systems Analysis 2	146
6221	Intro. to Material Science	146
6222	Fundamentals of Air-Conditioning	117
6224	Engineering Measurement and Analysis	146
6225	Electronic Licenses	106,108
6226	Intro. to Chemical Engineering	146
6277	Engineering Thermodynamics 1	146
6228	Engineering Thermodynamics 2	146
6232	Numerical Analysis & Computer Methods	147
6234	8asic Instrumentation	111
6235	Heat Transfer	147
6236	Material Science Lab	147
6237	Printing Production Management	115
6238	Mechanics of Materials	147
6239	Graphics for Electronic Technology	108
6240	Intro. to Digital Systems	147
6241	Programmed Engineering Graphics-Mod 1	96,101,147
6242	Programmed Engineering Graphics-Mod 2	101,147
6243	Programmed Engineering Graphics-Mod 3	101,147
6244	Programmed Engineering Graphics-Mod 4	101,147
6245	Programmed Engineering Graphics-Mod 5	101,147
6246	Programmed Engineering Graphics-Mod 6	101,147
6247	Programmed Engineering Graphics-Mod 7	101,147
6248	Programmed Engineering Graphics-Mod 8	101,147
6249	Programmed Engineering Graphics-Mod 9	101,147
6251	Machine Shop Techniques-Mod 1	148
6252	Machine Shop Techniques-Mod 2	148
6253	Machine Shop Techniques-Mod 3	148
6254	Machine Shop Techniques-Mod 4	148
6255	Machine Shop Techniques-Mod 5	148
6256	Machine Shop Techniques-Mod 6	148
6257	Machine Shop Techniques-Mod 7	148
6258	Machine Shop Techniques-Mod 8	148
6260	Machine Shop Techniques-Mod 10	148
6261	Fundamentals of Power Circuits	102
6262	Engineering Graphics 371	101,104
6266	Alphabet Keyboard Mastery	115
6268	Mechanisms	94

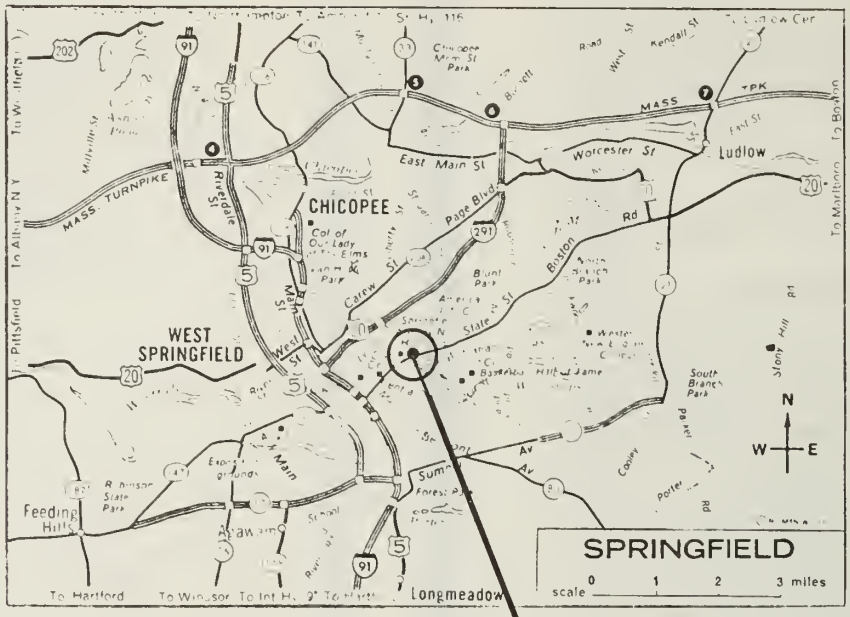
Title		Page No.
6270	RPG 2 - Programming 2	68
6273	Electronic Circuitry	106
6275	Intro. to TV Production	124
6276	Communicating in Today's World	124
6277	Video Production	124
6278	TV Producing and Directing	124
6279	Speaking on TV	124
6280	Analysis of Commercial & Public TV	124
6286	Electronic Construction Techniques	106
6287	Electronic Troubleshooting 1	106
6289	Electronic Troubleshooting 2	106
6299	Machine Shop Techniques-Mod 9	148
6320	Instructional TV Techniques	124
6321	TV Journalism	125
6322	TV Production Practicum	125
6323	Advanced Instructional TV	125
6324	Advanced TV Journalism	125
6328	Treatment Plant Unit Operations 2	111
6330	Advanced TV Production	125
6332	Cable TV	125
6333/6334	TV Honors	125
6335	Blue Print Reading	95
6336	Metal Machining 1	95
6337	Metal Machining 2	95
6338	Metal Machining 3	95
6339	Metal Machining 4	95
6340	Specialized Machinery	95
6342	Production Processes	95
6365	Intro. to Lasers	120
6366	Geometrical Optics	120
6367	Laser Electro-Optic Components	120
6368	Wave Optics	120
6369	Laser Projects	120
6370	Intro. to Alternative Energy Systems	123
6371	Solar Energy 1	123
6372	Solar Energy 2	123
6373	Measuring Principles 1	98
6374	Measuring Principles 2	98
6375	Calibration & Standardization	98
6376	Instrumentation Project	98
6377	Codes - Laws and Safety	98
6381	Engineering Economy	122
6382	Systems Evaluation 1	104
6383	Systems Evaluation 2	104
6384	Machine Shop Estimating	95,122
6385	Graphics Design Lab	101
6386	Intro. to Programming	109,122
6387	Digital Electronics Lab 1	109
6388	Digital Electronics Lab 2	109
6389	Microprocessor Theory	109
6390	Advanced Computer Topics	109

ALLIED HEALTH SCIENCES COURSES

7002	Foundations of Health	44
7003	Medical Lectures	45
7006	Kinesiology	45
7007	ORT 1	44
7008	ORT 2	44
7009/7010	Affiliation Workshop & Clinical Practice	50
7011	Respiratory Therapy 1	50
7012	Respiratory Therapy Application & Clinical Sciences 1	50
7013	Clinical Practice	50
7014	Respiratory Therapy Application & Clinical Sciences 2	50
7017	Field Work & Studies 1	83
7018	Field Work & Studies 2	84
7019	Field Work & Studies 3	84
7020	Field Work & Studies 4	84
7021	Seminar and Review 1	84
7022	Seminar and Review 2	84
7023	Dental Assisting Techniques 1	32
7024	Dental Assisting Techniques 2	33
7025	Dental Sciences 1	32
7026	Dental Sciences 2	33
7027	Medical Assisting Techniques 1	37
7028	Medical Assisting Techniques 2	37
7031	Intro. to the Clinical Lab 1	38
7032	Hematology and Coagulation	38
7033	Clinical Chemistry	38
7034	Immunohematology and Serology	38
7035	Clinical Lab Practicum	38
7037	Physical Therapist Assisting 1	45
7038	Physical Therapist Assisting 2	45
7039	Physical Therapist Assisting 3	45
7040/7041	Supervised Clinical Experience	45
7042	Physical Therapist Seminar	45
7043	Programmed Medical Terminology	37
7044	Medical Assisting Techniques for Secretaries 1	74
7045	Medical Assisting Techniques for Secretaries 2	74
7048	Basic Dermatology	76

Title		Page No.
7049	Seminar-Surigical-ORT	44
7050	Principles of Cosmetology Theory	76
7051	Fundamentals of Applied Cosmetology 1	76
7052	Fundamentals of Applied Cosmetology 2	76
7053	ORT 3	44
7054	ORT 4	44
7055	Supervised Lab Practicum	76
7056	Supervised Lab Practicum	76
7063	Field Work and Studies (Clin. Exp.)	44
7064	Field Work and Studies (Clin. Exp.)	44
7065	Affiliation	32
7069	Intro. to Clinical Lab 2	38
7070	Intro. to Medical Microbiology	38
7071	Parasitology	38
7072	Nursing 1	41
7073	Nuringg 2	41
7074	Nursing 3	41
7075/7076	Nursing 4	41
7077	Nursing 5	41
7078	Fundamentals of Respiratory Therapy	51
7080	Medical Assistant Seminar & Field Work	37
7081	Respiratory Therapy 2	51
7082	Dental Materials-Dental Assisting	32
7083	Dental Radiology-Dental Assisting	32
7084	Dental Anatomy	32
7085	Medical Assisting Techniques 3	37
7088	Pulmonary Function Testing	51
7089	Mechanical Ventilation & Resuscitation	51
7090	Principles of Nursing Leadership	42
7092	Nursing Process	42
7093	Principles of Operating Room Nurse	42
7101	Intro. to Early Childhood Education	77
7102	Child Growth and Development	77
7103	Theories of Learning & Personality Development	77
7104	Curriculum for Open Education 1	77
7105	Curriculum for Open Education 2	77
7106	Survey of Current Early Learning Programs	78
7107	Observation and Recording of Child Behavior	78
7109	Supervised Student Practicum	78
7110	Seminar and Critique	78
7112	Child Health & Nutrition	78
7115	Field Study 1	78
7116	Field Study 1	78
7117	Observation & Recording Field Study	78
7120	Oral Anatomy	34
7121	Intro. to Dental Hygiene	34
7125	Nutrition	34
7126	Periodontology	34
7127	Dental Materials-Dental Hygiene	35
7128	Histology & Oral Pathology	35
7129	Clinical Dental Hygiene 1	35
7130	Community Dental Health	35
7131	Pharmacology	35
7132	Dental Specialities	35
7133	Clinical Dental Hygiene 2	35
7134	Clinical Dental Hygiene 3	35
7136	Dental Radiology-Dental Hygiene	35
7138	Dental Hygiene Practice Management	35
7139	Expanded Functions for the Dental Hygienist	35
7142	Seminars in Dental Assisting	33
7151	Radiation Therapy Techniques 1	46
7152	Radiation Therapy Techniques 2	47
7154	Radiation Therapy Techniques 3	47
7155	Radiation Therapy Techniques 4	47
7156	Nuclear Medicine 1	40
7157	Nuclear Medicine 2	40
7159	Nuclear Medicine 3	40
7160	Nuclear Medicine 4	40
7165	Pharmacology-ORT	44
7221	Seminar and Review/Lab 1	84
7222	Seminar and Review/Lab 2	84
7250	E.M.T. 1	36
7251	E.M.T. 2	36
7252	E.M.T. 3	36
7253	E.M.T. 4	36
7254	E.M.T. Field Work & Studies 1	36
7255	E.M.T. Field Work & Studies 2	36
7270	Occupational Therapy Assistant 1	43
7271	Occupational Therapy Assistant 2	43
7272	Occupational Therapy Assistant 3	43
7273	O.T. Field Work & Studies	43
7274	Neuro Pathology	43
7351	Interpersonal Relationships in Nursing	42
7352	Human Sexuality In Nursing	42
7355	Death and Dying	42
7356	Psychosocial Issues in Nursing Care	42
7358	Modern Psychiatry for Nurses	42
7359	Nursing Care of the Aging Patient	42

	Title	Page No.
ART & MUSIC COURSES		
8080	Music Appreciation	137
8094	Introduction to Keyboard Skills	137
8095	Music for Early Childhood Education	138
8096	Art History 1	132
8097	Basic Drawing	132
8101	Early Childhood Art Education	132
8102	Art History 2	132
8103	Intermediate Keyboard Skills	138
8104	Drawing Composition	132
8108	Painting 1	132
8109	Painting 2	132
8110	Printmaking: Relief 1	132
8111	Printmaking: Relief 2	132
8112	Basic Concepts of 2 Dimensional Design	133
8113	Basic Concepts of 3 Dimensional Design	133
8115	Pottery 1	133
8119	Figure Drawing	133
COMMUNITY SERVICE COURSES		
9504	Hazardous Materials	79
9509	Intro. to Industrial Safety	85
9510	Occupational Safety & Health 1	85
9511	Occupational Safety & Health 2	85
9512	Occupational Safety & Health 3	85
9753	Criminal Law 1	81
9754	Criminal Procedures 1	81
9755	Criminal Investigation	82
9756	Criminal Evidence	82
9757	Juvenile Procedures	82
9760	Law Enforcement Photography	82
9761	Intro. to Criminal Justice	82
9762	Criminal Law 2	82
9763	Parole, Probation & Rehabilitation	81
9764	Criminal Procedures 2	82
9767	Police-Community Relations	82
9769	Law Enforcement Management & Planning	82
9770	Intro. to Fire Protection	79
9772	Legal Aspects of Fire Protection	79
9773	Fundamentals of Fire Protection	79
9774	Fire Hydraulics & Equipment	79
9775	Building Construction	79
9776	Fire Fighting Tactics & Strategy	79
9778	Fire Protection Systems	79
9779	Advanced Protection Systems	79
9780	Organization & Management of Fire Departments	79
9781	Fire Cuases & Detection-Arson	79
9782	Emergency Medical Training	80
9784	Fire Codes and Ordinances	80
9785	Public, Labor & Human Relations	80
9786	Special Occupancy Fire Systems	80
9790	Arson 2	80
9917	Machine & Assembly Languages	109



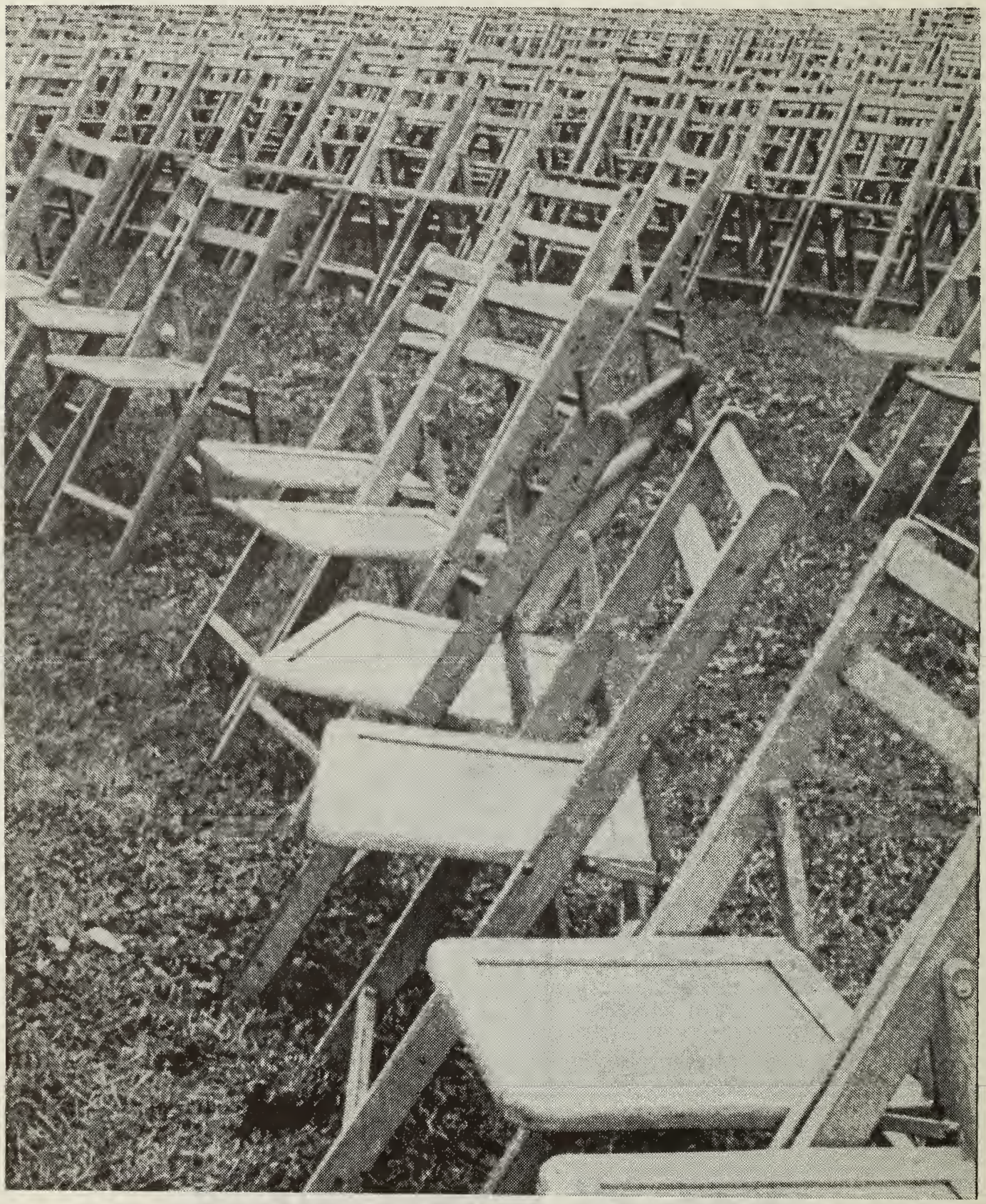
F ROM BOSTON TO STCC

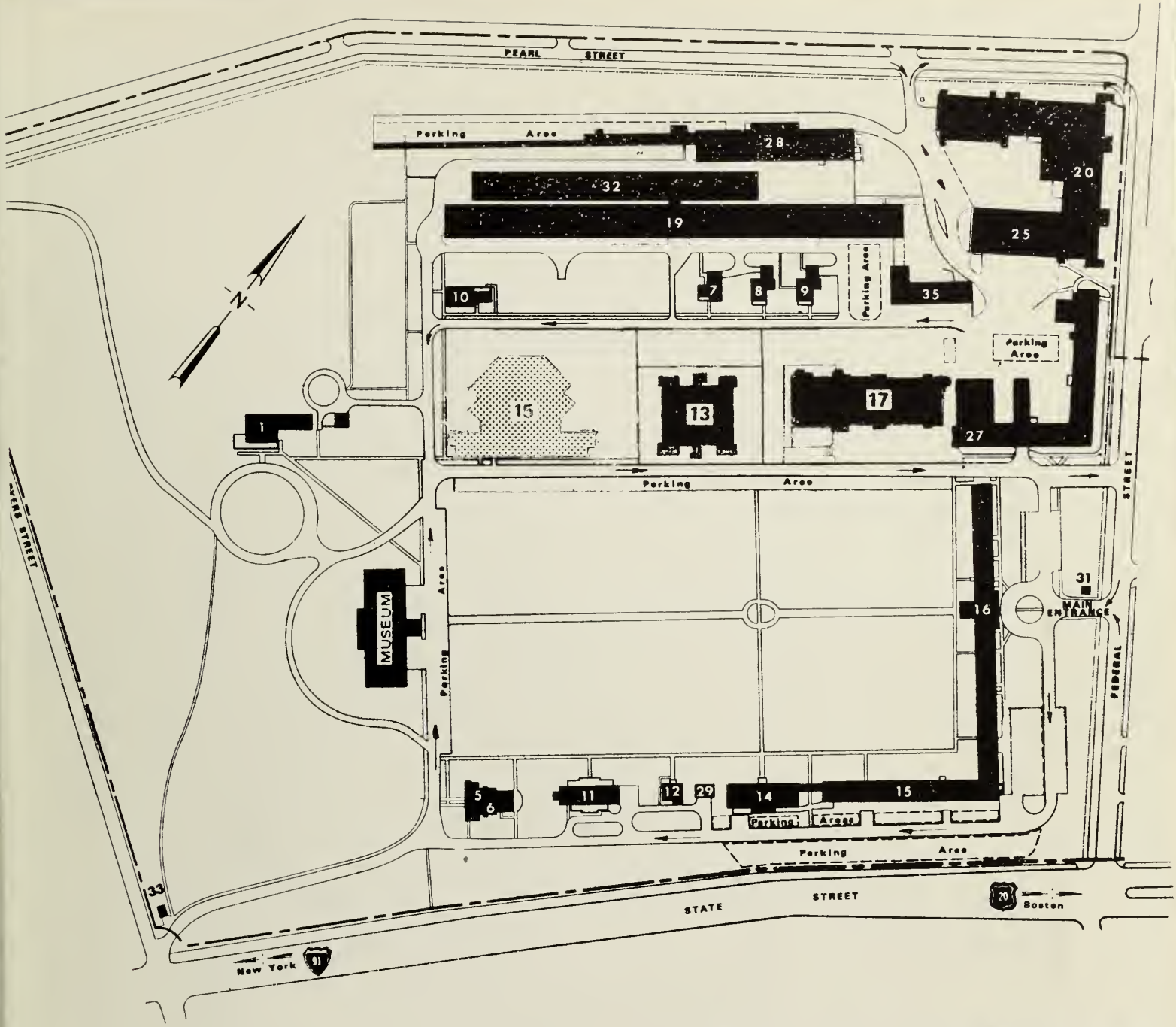
Get off at Springfield Exit 6 –
Come down 291 – get off at
Armory Street Exit – go
Around rotary and stay on
Armory Street heading south –
Stay on Armory Street until
You come to Federal Street.
Main Gate of STCC is on
Federal Street.



Lot	Owner	Cars
1	JONES AREA	80
2	FEDERAL AREA	75
3	CORDI AREA	30
4	WESTERN MASS.	150
5		
6		
7		

S.T.C.C. Off Campus Parking





S.T.C.C. CAMPUS

GAEC

This catalog was prepared in its entirety, on campus, by the Graphic Arts Education Center. The layout, design, typography and mechanical preparation are all inclusive courses offered in the comprehensive Graphic Arts Educational Program in the Division of Engineering Technologies.

Non-Profit
Organization
Permit 115
Springfield, Ma.

SPRINGFIELD
TECHNICAL
COMMUNITY
COLLEGE

ARMORY SQUARE, SPRINGFIELD, MASSACHUSETTS 01105